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(Supplement)  
(To)  
THE DOMESTIC PRACTICE  
OF  
(HOMŒOPATHY,  
BEING A  
COMPANION TO THE VARIOUS WORKS THEREON.

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TO THE  
THOUSANDS OF FAMILIES IN THIS COUNTRY,  
WHO BELIEVE IN THE TRUTH,  
BECAUSE  
THEY HAVE EXPERIENCED THE BENEFIT, OF HOMŒOPATHY,  
*This Work,*  
WHICH IS DESIGNED TO ENLARGE THE SPHERE,  
AND TO INCREASE THE USEFULNESS OF ITS OPERATION,  
IS MOST RESPECTFULLY ADDRESSED  
BY  
THE AUTHOR.



## P R E F A C E.

IN publishing this volume, the Author has several objects in view: to fill a void in the literature of Homœopathy; to supply a desideratum that has long been experienced by every practitioner and family; to render the domestic practice of the best healing art more complete and efficient than it has hitherto been; and to bring within a small compass a variety of information, collated from various sources, which every one who wishes “God-speed” to Homœopathy ought to know and to have at the finger’s end.

The Author expresses his acknowledgments for many valuable hints and some information to the works of Thompson, Combe, and others which do not require separate mention. He trusts that the work will prove acceptable and useful to those for whose special behoof it has been indited.

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92, GROSVENOR STREET, ALL SAINTS,  
MANCHESTER, *May* 5, 1858.



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# HOMŒOPATHY.

## PART I.

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### CHAPTER I.

#### THE GENERAL FEATURES OF HOMŒOPATHY.

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I. ITS DISCOVERER.—Samuel Hahnemann, who discovered, or, perhaps more accurately, worked out the principle of homœopathy, was born in Germany in the year 1755. After going through the usual preliminary education of a youth, he began, and indeed continued, the study of medicine under considerable difficulties. As a means of gaining subsistence, he undertook the translation of Dr. Cullen's work on *Materia Medica* into his native tongue. While thus engaged, his attention was attracted to the great and deserved reputation enjoyed by Cinchona or Peruvian Bark in curing agues. He resolved to ascertain the effects which this medicine produces when introduced



into the healthy body. He discovered that bark occasioned a condition of the body similar to ague. In this he is borne out by Dr. Routh, an opponent of homœopathy, who states that "bark certainly produces symptoms, as alleged by homœopathists, very like those of ague." Hahnemann now carried his investigations further, and, assisted by a few devoted followers, experimented upon the actions of a considerable number of medicinal agents. The result was, that he laid down the principle, that like diseases are to be treated by like remedies. His researches stand forth as a proof of his unflagging industry, energy, and perseverance. He died in 1843, at Paris, in the eighty-ninth year of his age. Hahnemann was honourable, conscientious, and generous, although the great and undeserved persecutions and ridicule to which he was subjected, throughout a long, laborious, and useful life, imparted some intolerance of spirit and acerbity of disposition which were not natural features in his character. He published several works, expounding his discoveries of the actions of medicines on the healthy body, and his doctrines respecting chronic and other diseases.

II. ITS LAW OF CURE.—Hahnemann, as we have said, was the first person who undertook systematic and complete experiments upon the consequences following the administration of medicinal substances to the healthy body. His successors are now following in the same track. Too much importance cannot be attached to the accurate and trustworthy determining of the specific action of drugs in health,

because upon this point hinges the selection of a medicine to cure disease. It was formerly the custom to ascertain in what way the sick frame was affected by substances whose medicinal properties were little or altogether unknown. This is a fallacious method of experimentation, because it is impossible to discriminate between the results produced by the drugs, especially if several be mixed together, and the changes consequent upon the progress or the abatement of the disease. It is, moreover, an inhumane and guilty proceeding to give large doses of substances whose actions are unknown, to the already over-afflicted body. The homœopathist, on the other hand, first experiments upon his own body in health, and having carefully ascertained the changes wrought by medicines, he is enabled to oppose the disease of his patient in accordance with the great and essential characteristic of homœopathy, viz., that *those medicines which produce certain effects in health are the best curative agents for similar symptoms of disease*. Every medicine produces phenomena peculiar in some respects to itself, and the changes which its presence occasion are manifested by symptoms or sufferings. Thus, when the berries of Belladonna, or deadly nightshade, are eaten, the sufferings produced are, general fever, headache, sore throat, and scarlet rash. Now, similar symptoms very frequently accrue from the operation of natural causes, and the disease is known as scarlet fever. The medicinal and the natural diseases are not the *same* but *like*, and, following out the principle of homœopathy, Bella-

donna is the most appropriate remedy to give, not when the child has eaten the berries, but when it has been exposed to contagion, or to some other cause of scarlet fever. According to experience, we know Belladonna to be the most successful means of restoring and of retaining health under such circumstances. The reader will now perceive the difference between Belladonna curing scarlet fever (like curing like), and Belladonna curing its own effects (same curing same). Illustrations might be adduced in abundance, in support of the relation which subsists between medicinal and natural diseases, and to show that the most reputed remedies of the old school owe their efficacy to their acting upon the homœopathic principle. The following quotation, however, will suffice; it is extracted from a work written by Dr. Routh *against* homœopathy. He states that "the experiments of Magendie have shown that tartar emetic, in doses of six to eight grains, will produce, amongst other lesions, pneumonia, if not rejected by vomiting. Every day's experience proves the efficacy of large doses of tartar emetic in curing pneumonia and other diseases of the lungs. Arsenious acid, long continued, will produce a variety of cutaneous eruptions. The advantage of arsenic in many of these diseases is, on the other hand, well recognized. Certain peculiar eruptions which occur after taking mercury have been described as produced by it, and which closely resemble those against which mercury is a specific. Here, then, are instances of the occasional" (Dr. Routh might have said *invariable*) "truth of this law" (*viz.*, the homœopathic).

III. ITS DOSE.—In the practice of homœopathy, the quantity of medicine administered in sickness is extremely small, in comparison with the considerable doses which it is the custom of the old method to introduce into the body. Hence it has been inferred, that the cures and relief which are acknowledged to occur cannot be due to the action of minute doses, but rather to the influence of diet, faith, imagination, etc. It is necessary here distinctly to state, that the dose of the medicine does not constitute homœopathy, but is merely a subordinate feature of a system which differs from all its predecessors or contemporaries in having a *law* to guide its operations. The question of the dose has excited considerable discussion. Some homœopathic practitioners are in the constant habit of prescribing not only appreciable but ponderable quantities of medicinal substances, and yet they are true to their creed, for the medicines are chosen in accordance with the sole characteristic of our system, viz., the fundamental principle of like curing like. Others, again, use the higher potencies, in which the medicines are extremely attenuated and supersensible. The superiority of the one practice over the other resolves itself into a question of personal experience, and can never be satisfactorily decided until our investigations into, and knowledge of, the actions of drugs, both in health and in disease, become more complete and accurate than they are now.

But a more important question concerns the general reader. Have small quantities of drugs—so

small that they possess no sensible properties, no taste, smell, or colour—the power to oppose a virulent and dangerous malady, and to bring the sufferer through anxiety, pain, and danger to health and vigour? The personal experience of every homœopathic practitioner and family answers in the affirmative. The strongest argument, then, adducible in support of this statement is the undeniable fact, that not in one isolated case only, but in hundreds of thousands, the administration of infinitesimal quantities of a medicinal substance has been followed, in the relation of cause to effect—not of mere coincidence—by a speedy and permanent restoration to health from the most fatal and painful afflictions.

IV. ITS SEPARATE MEDICINE.—In the “good old times,” medical men used to combine and mix up immense quantities of several—in one instance as many as fifty—different substances, into one single medley of contrarities. In our own more enlightened age, the absurdities of our forefathers are becoming more recognized, and the adherents of the old practice of physic are gradually abandoning the usage alluded to, for the more justifiable method of simplicity of prescription. The objections, however, to the admixture of even two different substances are insuperable. It is impossible to discover the pure drug action or the restorative tendencies of the body, the share each ingredient of the compound possesses in improving or in aggravating the symptoms, or the interference which they severally occasion to the full and specific action of the individual medicaments. Homœopathy

on the other hand, discards all complex and unwieldy machinery, and gives a single remedy by itself. By this means, the medicine, which is chosen according to the resemblance between its known action in health and the symptoms of the disease, produces the desired and anticipated effects, its action being undisturbed and unqualified by the contrary properties of drugs combined together.

V. ITS FOLLOWERS.—The practitioners of homœopathy are frequently stigmatized as “humbugs,” “quacks,” “charlatans,” “rogues,” etc. These genteel epithets are bandied about by the members of the old school, from whose ranks sprung up the very men to whom the above opprobrious appellations are really, truly, and solely applicable. But homœopathic medical men can afford to hear and to read of such nicknames being applied to them. If examined, it would be discovered that they possess at least average intelligence, and have had the straightforward honesty to embrace a condemned system because they believe it to be the truest and the best. Many of them have seceded from the old school in order to embrace the new one, and to work on in their noble and holy calling, under the influence of conscientious motives and rectitude of purpose. They have espoused homœopathy for no mean or contemptible object. They are, almost without exception, regularly educated to the profession; have pursued the usual routine of study, and, having passed the required examinations, are attested qualified to practice the healing science and art. Many of them hold responsible posts in connection

with several European courts ; upwards of thirty are professors to continental universities ; all are engaged in the great work of relieving human affliction, pain, and sorrow, by the gentlest and most expeditious means within their knowledge and command. They offer every inducement to the honest investigation of the claims of their medical faith ; they invite the sceptical to witness the treatment adopted ; they do not act secretly and for individual benefit, for in all their proceedings of a medical nature they act fairly, publicly, and above-board. Is it not a mistake to call such men quacks and humbugs ? Do our opponents merit the distinction of being noticed ? In homœopathy there are, of course, as in every other practical work, mean, ignorant, and dishonest men. We must, therefore, distinguish between the faithful and the faithless practisers of the homœopathic law ; between those who infringe and those who respect the established usages of professional etiquette ; and, lastly, the law itself must be separated from its practitioners.

VI. ITS SUCCESS.—The most important question touching homœopathy refers to the results of its practical operation. Admitting the certain fact that no system of treatment whatever can possibly avert ultimate death, is homœopathy superior to every other known means in prolonging life, in curing disease, and in relieving suffering ? To avoid the imputation of partiality, it will be proper to quote from a work written *against* homœopathy by an allopathic authority, who will, therefore, be unlikely to speak too highly in its favour. Dr. Routh, in his work entitled “The Fallacies of

Homœopathy," gives the following results of the two modes of treatment:—

1. *In inflammation of the lungs*, Dr. Routh states that, in the allopathic hospital of Vienna, twenty-three patients out of every hundred die; *whilst, in the homœopathic hospital in the same city, only five patients die out of every hundred.*

2. *In pleurisy* thirteen patients out of every hundred die in allopathic hospitals; *whilst only three in the same number die in homœopathic hospitals.*

3. *In inflammation of the bowels*, thirteen out of every hundred die in allopathic hospitals; *whilst only four in every hundred die in homœopathic hospitals.*

4. *In dysentery*, allopathic hospitals lose twenty-two out of every hundred; *whilst homœopathic hospitals lose only three in the same number of patients.*

Again, the following statistics of the treatment of epidemic cholera in 1854, extracted from the printed documents of the House of Commons, will establish the superiority of the homœopathic treatment. In cholera cases generally, the number of deaths under allopathic treatment was forty-five in every hundred; *under homœopathic treatment only seventeen in every hundred.* In the more severe form of the disease, attended with collapse, or sinking of the life-powers, sixty-nine in every hundred died under allopathic treatment; *but only thirty in the same number under the homœopathic.* To the foregoing indubitable facts might be added the testimony of many eminent medical men, the experience of every practitioner of homœopathy, and the willing acknowledgments of many



families who have participated in its advantages and successes.

VII. ITS ADVANTAGES.—We shall have occasion, further on in this work, to enumerate the numerous favourable circumstances attaching to homœopathy ; but in this place we shall epitomize its more important advantages. They are :—The law of cure, which teaches the immutable and universal relation subsisting between medicinal and natural diseases ; the guide, furnished by this law, to the selection of the most appropriate medicine ; the administration of the medicines separately and distinctly ; the rejection of all cruel and debilitating appliances—such as bleeding, blistering, setoning, issuing, salivating, and the like ; the permanent and complete cure of the disease, so that the invalid does not suffer from its after effects ; the exemption from the present and prospective evils of taking large doses of medicinal substances, whose retention within the body and subsequent action upon it may prove more dangerous and painful than the original disease ; and, lastly, the very decided and superior success attending homœopathic practice—an advantage which an invalid will not unjustly regard as more important than all the others put together.

VIII. ITS PREFERABLENESS.—Homœopathy concerns both the medical man and the patient ; the one who exercises the apparatus, and the one upon whom it is exercised. There are several reasons why both prefer homœopathy, to any other known healing system.

1. The medical man prefers homœopathy, *firstly*,

Because, in confronting the disease, it furnishes him with a safe and unerring guide in selecting the best remedy. His knowledge of the specific action of drugs, derived from his own investigations or from the researches of his professional brethren, and his acquaintance with the symptoms or outward manifestation of the diseases he is called upon to treat, enable him to determine, with certainty and precision, what particular remedy most closely resembles the sufferings of his patient. Having thus chosen a medicine on the principle of like curing like, he has no misgivings as to the result of its operation, provided the disease be not incurable in its nature. *Secondly*, It enables him to be prepared for the treatment or the prevention of any new disease that may appear, although he may not have seen a single example of it. The possession of its leading symptoms will alone be required, to enable him to choose that medicine to cure the complaint, which produces similar symptoms in health. By this means Hahnemann gave directions for the treatment of cholera in 1831, and, although he had not seen a single case, his recommendations were attended with the greatest success in curing that fell pestilence. *Thirdly*, Because he can administer the homœopathic remedies and witness the proofs of their efficacy in circumstances—such as lock-jaw and other diseases—which would preclude the possibility of giving the large doses of the old school. *Fourthly*, Because he knows, from past experience, that homœopathy is all-sufficient in the most desperate maladies, such as cholera and other acute diseases, in which

some decisive and effective measures of relief must be immediately resorted to, else the patient will die. *Fifthly*, Because he has no need to torment his patient—perhaps an infant or a child—with nauseous drugs, and to torture him with cruel and painful applications. The simplicity and gentleness of the homœopathic means of cure are no slight recommendation in its favour to the sensitive feelings of the humane physician. His duty does not consist in drug-giving and pain-inflicting, but in curing his patient by whatever measures he considers the best—and the simpler the better. *Sixthly*, Because the dose of medicine being small and exactly adapted to the diseased part, and to it only, he need not fear that his patient will afterwards suffer from the effects of retained drugs. It is well known that arsenic, mercury, and other medicinal substances may be taken for a considerable time, in comparatively large quantities, without any apparently injurious consequences supervening; but, at a period more or less remote, they begin to disturb the healthy functions, alarming symptoms appear, and death is not unfrequent. *Seventhly*, Because homœopathic remedies operate curatively in the so-called incurable diseases which have resisted all other tried medicines of the old school. Thus, constipation is generally cured by homœopathy, whilst the aperients of the old system make bad worse. The same general remark is applicable to many other complaints. *Eighthly*, Because when homœopathy cannot cure, not on account of inadequacy, but in consequence of the impossibility of the diseased part being restored to

health owing to structural change, it can effectually alleviate suffering and assuage pain. Thus, although it cannot cure consumption—"a disease which medicine never cured"—yet it can relieve the cough, night-sweats, and purging.

2. The patient prefers homœopathy for several reasons, which may be summed up in a few words, being chiefly a recapitulation of the chief advantages of the system. They are the following :—He recovers more quickly, thoroughly, and permanently ; he is not pained and exhausted by severe measures ; he has not a large doctor's bill to pay when he recovers ; and he is more likely to be restored to health from any disease.

IX. ITS TESTS.—Some may consider the general public inadequate to adjudicate on the general merits of homœopathy, in consequence of not knowing the professional bearings of the disputed points. This is, doubtless, true to a considerable extent ; still, non-professional people fall ill, and are universally disposed to entrust themselves to that mode of treatment which can restore them to health the most expeditiously, economically, and permanently. In this respect they are more immediately interested than even their medical attendant. In the absence, then, of the necessary knowledge and opportunities which can alone enable those who have not received a medical training to judge correctly of the comparative value of homœopathy, we shall furnish them with five excellent and appropriate rules. They are given by Dr. Hooker, the author of a prize essay *against* homœopathy. He says :—

“ Good practice differs from its opposite in five particulars—

“ 1. It has fewer fatal cases, in proportion to the whole number that come under treatment.

“ 2. It has fewer bad cases, because it does not convert light cases into grave ones, and succeeds, in many cases, in arresting disease at its very commencement.

“ 3. The patients have commonly a shorter sickness.

“ 4. They are in better health after they have recovered, less apt to have bad results left behind, and less liable to disease in future.

“ 5. He who pursues ‘ good practice,’ has a less number of patients, and a smaller amount of sickness in the same number of families.”

These particulars are so truly and strictly applicable to homœopathy, as every person at all conversant with the system will perceive, that they might have been written for the express purpose of proving that it is “ good practice.” The reader can decide for himself whether the above rules apply to allopathy, and whether it deserves to be called “ good practice,” or the reverse. The conclusion will not be far from truth.

X. ITS DIET.—Ignorant people entertain very opposite and erroneous notions respecting the homœopathic diet. Some consider the cures, which cannot be gainsayed, to be attributable to dietary restrictions; others maintain that repletion of food works the oracle. Of course, both are wrong. Homœopathy,

in regulating the diet of the invalid in accordance with the disease—its nature, progress, and stage—is but following out an essential necessity. The appetite is generally a correct index of the wants of the system, and he who can obey, without overstepping its desires, will not, as a rule, be doing much wrong. There are cases, however, marked by slight self-control in the patient, and by depraved or excessive desire for food, in which it is of the utmost consequence to attend to dietary regulations. The nature and quality of the food, and the various circumstances under which it is partaken, also merit the strictest attention, both as means of retaining health, and as passive agents in quelling disease. In every homœopathic domestic work, tables are given of certain foods which are “allowed” and “forbidden.” If the reader will refer to these, he will find the prohibition placed upon substances which are known to possess medicinal or stimulating properties. Their exclusion, therefore, from the diet of the patient is required in order that the medicines given to cure the disease may not have their action disturbed, modified, or antidoted by any preventable influence. The author of this work, although deferring to the almost universal practice of homœopathic writers in commenting upon the diet, is convinced, from his own observation, that the medicines appropriate to the disease will generally exert their pure and desired action, even though the patient confess to very wide transgression as to habits of eating and drinking. Many patients may smoke and snuff, indulge in onions and strong drink, and take potions of

drugs in secret, and yet these substances do not seem to materially affect the curative action of the medicine chosen homœopathically. Poor people, who cannot choose their food, who are no less glad to eat what they can get, than to get what they can eat, and to whom a pipe of 'bacca and a cup of strong tea are true luxuries in the midst of want and distress, recover from their diseases after much the same fashion as their better-to-do brethren higher up the social ladder, who can resort to a varied repast. Infants, and the lower animals, are also curable when diseased, although the infant can take only one kind of food, viz., milk; the horse, grass or bran, etc. These facts show that change of diet alone cannot account for the cures which occur in homœopathic practice; and that the medicines of our system will act under circumstances apparently the most unfavourable.

It is however advisable, when under homœopathic treatment, to abstain from using all other drugs and domestic medicines, such as pills, senna, rhubarb, etc.

XI. ITS REMEDIES, with their abbreviations, synonyms, and common names :—

1. *Absinthium*. Abs. *Artemesia absinthium*. Wormwood.
2. *Acalipha Indica*. Acaliph. Indian acalipha.
3. *Aceti acidum*. Acet. ac. *Acidum aceti*. Acetic acid.
4. *Aconitum napellus*. Acon. Aconite. Monkshood. Blue Wolfsbane. Helmet-flower.
5. *Actæa racemosa*. Act. rac. Black Cohosh.
6. *Actæa spicata*. Act. spic. Herb Christopher. Baneberry. Cohosh.

7. *Æthusa cynapium*. Æth. cyn. Garden hemlock. Fool's parsley.
8. *Agave Americana*. Agav. Mague. American aloe.
9. *Agaricus muscarius*. Agar. Amanita. Bug-agaric. Toadstool.
10. *Agnus castus vitex*. Agnus c. Vitex agnus. Chaste-tree.
11. *Alcohol sulphuris*. Alch. sulph. Sulphuret of carbon.  
Carburet of sulphur.
12. *Allium cepa*. Allium c. Red onion.
13. *Allium sativa*. Allium s. Garlic.
14. *Alæs gummi*. Alæ. Aloes. Alæ.
15. *Alumen*. Alum. Oxide of Aluminium. Alumine. Argilla pura. Pure clay, pure earth.
16. *Ambra grisea*. Ambra. Ambergris.
17. *Ammoniacum gummi*. Ammoniac. Gum ammoniac.
18. *Ammonium carbonicum*. Am. c. Carbonate of ammonia.  
Sal volatile.
19. *Ammonium causticum*. Am. caust. Caustic ammonia.  
Solution of ammonia.
20. *Ammonium muriaticum*. Am. m. Muriate of ammonia.  
Hydrochlorate of Ammonia. Sal ammoniac.
21. *Amphisbæna vermicularis*. Amphisb.
22. *Anacardium orientale*. Anac. Malacca bean. Cashew nut.
23. *Anagallis arvensis*. Anagal. Scarlet pimpernel. Red chick-weed. Poor man's weather-glass.
24. *Andira inermis*. And. inerm. Yaba.
25. *Angelica*. Angel. Garden angelica. Angelica archangelica.
26. *Angusturæ cortex*. Angust. Angustura bark. Galipea officinalis. Cusparia bark. Bark of Bonplandia trifoliata.
27. *Anisum stellatum*. Anis. Aniseed. Star aniseed.
28. *Anthrakokali*. Anthrak. Anthracite coal. Lithanthrakokali simplex.
29. *Antimonium crudum*. Ant. c. Crude antimony. Sulphuret of antimony. Sulphuretistibi. Stibium sulphuretum nigrum.
30. *Antimonium Tartaricum*. Ant. tart. Tartarus emeticus. Tart. em. Tartar emetic. Tartarized antimony. Tartarus stibiatus. Potassio tartarate of antimony.



61. *Apis mel.* Apis. Honey-bee.
32. *Apocynum cannabinum.* Apoc. cann. Indian hemp,  
American-Indian hemp.
33. *Apocynum androsæmifolium.* Apoc. andros. Bitter root,  
Wandering milkweed. Dog's-bane.
34. *Aquilegia vulgaris.* Aquil. Columbine.
35. *Arctium lappa.* Arct. l. Common burdock. Clotbur.
36. *Argentum metallicum.* Argent. ~~Argentum~~ *Argentum foliatum.* Silver.
37. *Argentum nitricum.* Arg. nit. Nitrate of silver. Crystal-  
lized nitrate of silver.
38. *Aristolochia milkomens.* Arist. Snake-root.
39. *Armoracia officinalis.* Arm. Cochlearia armoracia. Horse-  
radish.
40. *Arnica montana.* Arn. Arnica. Mountain arnica.  
Leopard's-bane.
41. *Arsenicum album.* Ars. Acidum arseniosum. Arsenious  
acid. White arsenic. Arsenic.
42. *Arsenicum citrinum.* Ars. cit. Arsenicum tersulphuretum.  
Tersulphuret of arsenic. Auripigmentum.
43. *Arsenicum metallicum.* Ars. met. Metallic arsenic.
44. *Artemesia vulgaris.* Artem. Radix parthenii. Mugwort.
45. *Arum maculatum.* Arum. Common arum. Wake Robin,  
Cuckoo-pint.
46. *Asafœtida.* Asaf. Ferrula assafœtida. Devil's-dung.
47. *Asarum Europæum.* Asar. Asarabacca. Hazelwort. Wild  
spikenard.
48. *Asclepia incarnata.* Ascl. inc. White hemp.
49. *Asparagus officinalis.* Aspar. Asparagus.
50. *Astacus fluviatilis.* Astac. fl. Cancer astacus. Craw-fish.
51. *Asterius rubens.* Ast. rub. Red star-fish.
52. *Athamanta oreoselinum.* Athamant. Mountain Parsley.
53. *Atriplex Olida.* Atrip. Stinking goosefoot.
54. *Aurum metallicum.* Aur. Aurum foliatum. Gold.
55. *Aurum fulminans.* Aur. fulm. Fulminating gold.
56. *Aurum muriaticum.* Aur. mur. Muriate of gold. Deuto-  
chloride of gold.

57. *Aurantia amara*. Aurant. Bitter orange.
58. *Baptista tinctoria*. Bapt. tinct. Wild indigo.
59. *Baryta carbonica*. Baryt. c. Carbonate of barytes.
60. *Baryta muriatica*. Baryt. m. Muriate of barytes. Hydrochlorate of barytes. Chloride of barium.
61. *Beberu cortex*. Beber. Bark of the beberu. Greenheart-trec.
62. *Belladonna*. Bell. Atropa belladonna. Deadly nightshade.
63. *Bellis perennis*. Bellis. Daisy.
64. *Benzoic acid*. Benz. ac. Acidum benzoicum. Benzoic acid. Flowers of Benzoin.
65. *Berberis vulgaris*. Berb. Barberry.
66. *Bismuthi magisterium*. Bism. Nitrate of bismuth. Magistery of bismuth. Pearl white. Spanish white.
67. *Blatta Americana*. Blatt. Kakeilat Americana. American cockroach.
68. *Borax veneneta*. Bor. Borax. Boras. Natrum boracicum. Biborate of soda. Tincal.
69. *Bovista*. Bov. Lycoperdon bovista. Puff-ball. Devil's snuff-box.
70. *Branca ursina*. Branc. Heracleum sphondillum. Bear's breech. Cow's parsnip.
71. *Brayera anthelmintica*. Brayer. Kousso.
72. *Bromium*. Brom. Bromine.
73. *Brucea Anti-dysenterica*. Bruc. ant. d. Angusturæa spurea. False angustura.
74. *Bryonia alba*. Bry. White Bryony. Wild Hops. Wild vine. White vine.
75. *Bufo sahytiensis*. Bufo. sat.
76. *Cahinca radix*. Cahinc. Cainca. Cahinca root. Snowberry.
77. *Caladium seguinum pers.* Calad. Poisonous pedivous. Dumb cane. Caladium.
78. *Calcarea acetica*. Calc. ac. Acetate of lime.
79. *Calcarea arseniosum*. Calc. ars. Arsenite of lime.
80. *Calcarea carbonica*. Calc. c. Carbonate of lime. Oyster shell.
81. *Calcarea caustica*. Calc. caust. Oxide of lime. Quicklime.

82. *Calcarea phosphorata*. Calc. phos. Phosphate of lime.
83. *Calendula officinalis*. Calend. Marygold.
84. *Camphora*. Camph. Laurus camphora. Camphor.
85. *Canchiligua*. Canch. Chelomia Chiliensis.
86. *Canna angustifolia*. Canna ang.
87. *Cannabis Indica*. Cann. Ind. Indian hemp. Hashish.  
Bang. Gunga.
88. *Cannabis sativa*. Cann. Hemp.
89. *Cantharides*. Canth. Blistering-fly. Spanish-fly.
90. *Capsicum annum*. Caps. Cayenne pepper. Chilli pepper.
91. *Carbo animalis*. Carbo an. Animal charcoal.
92. *Carbo vegetabilis*. Carbo v. Vegetable charcoal. Wood  
charcoal.
93. *Carduus marianus*. Card. mar. St. Mary's thistle. Lady's  
or Milk thistle.
94. *Cascarilla*. Casc. Croton cascarilla. Cascarilla bark.
95. *Castoreum*. Cast. Castor.
96. *Caulophyllum thalactroides*. Caul. thal. Squaw-root.  
Pappoose root. Blue cohosh.
97. *Causticum*. Caust. Caustic.
98. *Cedron*. Ced.
99. *Cervus Brazilicus*. Cerv. Brazilian stag.
100. *Chamomilla*. Cham. Matrix chamomilla. Common wild  
chamomile.
101. *Chelidonium majus*. Chel. Greater celandine.
102. *Chenopodium glaucum aphs*. Chel. g. aph. Louse of the  
oak-leaved goosefoot.
103. *China officinalis*. Chin. Cinchona. Cinch. Yellow Peru-  
vian bark. Bark.
104. *Chininum sulphuricum*. Chin. sulph. Sulphate of Quinine.  
Quinine.
105. *Cicuta virosa*. Cic. Water hemlock. Cowbane.
106. *Cimicifuga racemosa*. Cimif. Macrotys racemosa. Botro-  
phius serpentaria. Cohosh. Black Snake-root. Rattleweed.
107. *Cinæ semen*. Cina. Cin. Mugwort of Judea. Wormseed.  
Artemisia santonica.

108. *Cinnabaris*. Cinnab. Red sulphuret of mercury. Hydrargyri sulphuretum rubrum. Cinnabar. Vermilion.
109. *Cinnamomum*. Cinnam. Cinnamon.
110. *Cistus Canadensis*. Cist. Can. Canadian rock-rose. Holly-rose.
111. *Clematis erecta*. Clem. Upright virgin's bower.
112. *Coccinella septempunctata*. Coccin. Ladybird.
113. *Cocculus Indicus*. Cocc. Indian berries.
114. *Coccus cacti*. Coccus c. Cochineal.
115. *Cochlearia armoracia*. Cochl. Armoracia. Armor. Horse-radish.
116. *Codein*. Cod. An alkali from the hydrochlorate of morphia.
117. *Coffea cruda*. Coff. Coffea Arabica. Raw coffee.
118. *Colchicum autumnale*. Colch. Meadow saffron.
119. *Collinsonia Canadensis*. Collinson c. Stone-root.
120. *Colocythis*. Coloc. Bitter cucumber.
121. *Commocladia dentata*. Commocl. Guao.
122. *Conium maculatum*. Con. Spotted hemlock.
123. *Convolvulus arvensis*. Conv. Bindweed.
124. *Convolvulus duartinus*. Conv. duart. Morning glory.
125. *Copaiba balsamum*. Cop. Balsam of copaiba.
126. *Corallia rubra*. Coral. Red coral.
127. *Cornus circinata*. Corn. cir. Round-leaved dogwood.
128. *Cotyledon umbilicus*. Cotyl. Navalwort.
129. *Crocus sativa*. Croc. Saffron.
130. *Crotalus cascavella*. Crot. c. Brazilian rattlesnake poison.
131. *Crotalus horridus*. Crot. h. Rattlesnake poison.
132. *Croton tiglium*. Croton. Croton-oil seeds.
133. *Cubebæ*. Cubeb. Cubebs. Cubebe-pepper.
134. *Cuprum aceticum*. Cupr. ac. Acetate of copper. verdegris.
135. *Cuprum arseniosum*. Cupr. ars. Arsenite of copper.
136. *Cuprum carbonicum*. Cupr. c. Carbonate of copper.
137. *Cuprum metallicum*. Cupr. m. Copper.
138. *Cuprum sulphuricum*. Cupr. sulph. Sulphate of copper. blue vitriol.
139. *Curari*. Curar. Wouralli poison.

140. *Cyclamen Europæum*. Cycl. Sow-bread.
141. *Cyprinus barbus*. Cypr. Barbel. Common barb.
142. *Cystisus laburnum*. Cist. lab.
143. *Daphne Indica*. Daph. Indian daphne. Sweet-scented spurge laurel.
144. *Delphinus amazonicus*. Delph. Skin of the Amazonian dolphin.
145. *Diadema aranea*. Diadem. Diadem spider. Papal cross spider.
146. *Dictamus albus*. Dict. White dittany. Bastard dittany.
147. *Digitalis purpurea*. Dig. Foxglove. Purple foxglove.
148. *Dolichos pruriens*. Dolich. Cowhage.
149. *Drosera rotundifolia*. Dros. Round-leaved sundew. Rorella.
150. *Dulcamara*. Dulc. Bitter-sweet. Woody nightshade.
151. *Elaps corallinus*. Elaps. Vipera coralline. Viper poison.
152. *Elator noctilicus*. Elat. noct. Firefly of India.
153. *Elaterium*. Elater. Squirting cucumber. Wild cucumber.
154. *Eleis guineensis*. Eleis. Palm-tree.
155. *Ephedon occidentalis*. Eph. occid. Popilote.
156. *Eryngium aquaticum*. Eryng. Button-snakeweed.
157. *Erythroxyton coco*. Erythrox.
158. *Eugenia jambos* Eugen. Malabar plum-tree. Rose apple.
159. *Eupatorium perfoliatum*. Eupat. Bone set. Thoroughwort. Thorough-wax. Indian sage. Ague-weed. Joc-pye.
160. *Euphorbia officinalis*. Euphorb. Official spurge.
161. *Euphrasia officinalis*. Euphr. Eyebright.
162. *Euonymus Europæum*. Euon. Spindle-tree. Prickwood.
163. *Ferrum aceticum*. Ferr. ac. Acetate of iron.
164. *Ferrum carbonicum*. Ferr. carb. Carbonate of iron.
165. *Ferrum iodidi*. Ferr. iod. Iodide of iron.
166. *Ferrum magneticum*. Ferr. mag. Mineral loadstone.
167. *Ferrum metallicum*. Ferr. m. Iron.
168. *Ferrum sulphuricum*. Ferr. sulph. Sulphate of iron.  
Protosulphate of iron.
169. *Filix mas*. Filix m. Aspidium filix mas. Male fern.
170. *Fluoric acid*. Fluor. ac. Hydrofluoric acid.

171. *Formica rufa*. Form. Red ant.
172. *Fragaria vesca*. Frag. Wood strawberry. Wild strawberry.
173. *Gallic acid*. Gall. ac.
174. *Geranium maculatum*. Ger. mac. Spotted geranium.
175. *Gentiana cruciata*. Gent. c. Crosswort gentian.
176. *Gentiana lutea*. Gent. lut. Gentian bitterwort.
177. *Ginseng*. Gins. All-heal.
178. *Glanderine*. Gland. Hippozanine.
179. *Glonoin*. Glon. Nitro-glycerine.
180. *Grannatum*. Gran. Punica grannatum. Pomegranate.
181. *Graphites*. Graph. Plumbago. Carburet of iron. Black-lead.
182. *Gratiola officinalis*. Grat. Hedge hyssop. Water hyssop.
183. *Guaco mikania*. Guac. Guaco.
184. *Guaiacum officinalis*. Guaiac. Resin of Guaiacum.
185. *Guano Australis*. Guan.
186. *Gummi gutti*. Gummi g. Gutti gummi. Gutti. Gamboge.
187. *Gymnocladus Canadensis*. Gymn. Can. Chicot. Stump-tree. Kentucky Coffee-tree. Fly-poison.
188. *Hæmatoxylum Campeachianum*. Hematox. Logwood.
189. *Hamamelis Virginica*. Hamam. Witch hazel of Virginia.
190. *Hedysarum ildefonsianum*. Hedys. Brazilian burdock.
191. *Helianthus annuus*. Helianth. Sunflower.
192. *Heliotrope Peruviana*. Heliotrope. Peruvian turnsol.
193. *Helleborus niger*. Hell. Black hellebore. Christmas rose.
194. *Hepar sulphuris calcarea*. Hep. Liver of sulphur. Sulphuret of lime.
195. *Hippomane mancinella*. Hippom. Mancinella venenata.
196. *Hura Braziliensis*. Hura. Assacu.
197. *Hydrocyanic acid*. Hydroc. ac. Prussic acid.
198. *Hyoscyamus niger*. Hyos. Black henbane.
199. *Hypericum perforatum*. Hyper. St. John's-wort. All-saint's-wort.
200. *Ignatia amara*. Ign. St. Ignatius' bean.
201. *Indigo*. Indig. Indigofera tinctoria.
202. *Iodium*. Iod. Iodine.

203. *Ipecacuanha*. Ipec. *Cephalis ipecacuanha*.
204. *Iris versicolor*. Iris.
205. *Jacoranda caroba*. Jacor. c. *Bignonia caroba*.
206. *Jalappa*. Jal. Jalap.
207. *Janipha manihot*. Janip. *Jatropha manihot*. *Manioca mandi*.
208. *Jatropha curcas*. Jat. c. Barbadoes nuts. Infernal fig.
209. *Juglans regia*. Juglans. *Nux juglans*. Walnut.
210. *Juncus effusus*. Junc. ef. Flowering rush.
211. *Juncus pilosus*. Junc. pil. Haired rush.
212. *Kali bichromas*. Kali b. Bichromate of potash.
213. *Kali bromatum*. Kali brom. Hydrobromate of potash.
214. *Kali carbonicum*. Kali c. Subcarbonate of potash. Salt of tartar.
215. *Kali chloricum*. Kali chlor. Chlorate of potash.
216. *Kali hydriodicum*. Kali hydriod. Hydriodate of potash.
217. *Kali nitricum*. Kali nit. Nitrum. Nitre. Nitrate of potash. Saltpetre.
218. *Kalmia latifolia*. Kalm. Mountain laurel. Broad-leaved laurel. Lambkill, Ivy-bush. Spoonwood. Calico-bush.
219. *Kreosotum*. Kreos. Creosote.
220. *Lachesis*. Lach. Poison of the lance-headed viper. *Trigonocephalus lachesis*.
221. *Lactuca virosa*. Lact. Poisonous lettuce. Strong-scented lettuce.
222. *Lamium album*. Lam. Dead nettle. Blind nettle.
223. *Laurocerasus*. Laur. *Prunus laurocerasus*. Cherry laurel.
224. *Ledum palustre*. Led. Marsh tea. Wild rosemary.
225. *Lepidium Bonariense*. Lepid. Mastruco.
226. *Lobelia cardinalis*. Lob. card. Scarlet lobelia. Cardinal flower.
227. *Lobelia inflata*. Lobel. Indian tobacco. Emetic herb.
228. *Lolium temulentum*. Lol. Cockle-weed. Bearded darnel.
229. *Lupulus*. Lup. *Humulus lupulus*. Hop.
230. *Lycopodium clavatum*. Lyc. Wolf's-foot. Club-moss. Wolf's-claw pollen. Vegetable sulphur.

231. *Magnesia carbonicum*. Mag. c. Carbonate of magnesia.  
Subcarbonate of magnesia.
232. *Magnesia murias*. Mag. m. Muriate of magnesia.
233. *Magnesia sulphurica*. Mag. s. Sulphate of magnesia.  
Epsom salts.
234. *Manganum aceticum*. Mang. ac. Acetate of manganese.
235. *Manganum carbonicum*. Mang. c. Carbonate of manganese.
236. *Manganum*. Mang. Manganesii oxydatum. Oxide of  
manganese.
237. *Melastoma akermani*. Melast.
238. *Menyanthes trifoliata*. Menyanth. Buckbean. Marsh  
trefoil.
239. *Mephitis putorius*. Meph. Skunk. American polecat.
240. *Mercurialis perennis*. Merc. per. Dog mercury. French  
mercury.
241. *Mercurius acetatus*. Merc. ac. Acetate of mercury.  
Hydrargyrum aceticum.
242. *Mercurius corrosivus sublimatus*. Merc. cor. Hydrargyrum  
muriaticum corrosivum. Bichloride of mercury. Corro-  
sive sublimate of mercury.
243. *Mercurius dulcis*. Merc. dulc. Chloride of mercury.  
Hydrargyrum muriaticum. Calomel.
244. *Mercurius iodatus*. Merc. iod. Protoiodide of mercury.  
Hydrargyrum iodatum.
245. *Mercurius solubilis*. Merc. sol. Hydrargyrum oxydulatum  
nigrum. Black oxide of mercury. Hahnemann's soluble  
mercury.
246. *Mercurius sulphuricus*. Merc. sol. Sulphuret of mercury.  
Cetheop's mineral.
247. *Mercurius vivus*. Merc. v. Hydrargyrum. Mercury.  
Quicksilver.
248. *Mezereum*. Mez. Daphne mezereum. Mezereum. Spurge  
laurel.
249. *Millefolium*. Millef. Achillæ millifolium. Milfoil. Yarrow.
250. *Mimosa humilis*. Mimos.
251. *Morphium aceticum*. Morph. ac. Morphia.



252. *Moschus*. Mosch. Musk.
253. *Murex purpura*. Murex. Purple shell-fish. Tyrian dye.
254. *Murure leite*. Murure.
255. *Muriatis acidum*. Mur. ac. Muriatic acid. Hydrochloric acid. Chlorohydric acid. Spirit of salt.
256. *Mygale avicularia*. Mygal. Bird spider of Texas.
257. *Myristica sebifera*. Myrist.
258. *Myrtis communis*. Myrtis c. Myrtle.
259. *Naja tripudians*. Naja. Poison of the cobra snake.
260. *Natrum carbonicum*. Nat. c. Carbonate of soda.
261. *Natrum muriaticum*. Nat. m. Muriate of soda. Chloride of sodium. Common salt.
262. *Natrum nitricum*. Nat. nit. Nitrate of soda.
263. *Natrum sulphuricum*. Nat. s. Sulphate of soda. Glauber's salts.
264. *Niccolum carbonicum*. Niccol. Carbonate of nickel.
265. *Nitri acidum*. Nit. ac. Nitric acid. Aquafortis.
266. *Nitri spiritus dulcis*. Nit. sp. dulc. Nitrous ether. Sweet spirit of nitre.
267. *Nuphar lutea*. Nuphar. Yellow water-lily.
268. *Nux moschata*. Nux mosch. Nutmeg.
269. *Nux vomica*. Nux v. Strychnos nux vomica. Poison nut.
270. *Ocimum canum*. Ocim.
271. *Œnanthe crocata*. Œnanth. Hemlock water dropwort.
272. *Oleander*. Olcand. Nerium oleander. Rose laurel. Laurel rose. Rose bay.
273. *Oleum animale*. Ol. an. Animal oil of dippel. Essential animal oil.
274. *Oniscus asellus*. Onis. as. Wood-louse.
275. *Opium*. Papaver somniferum. White poppy. Laudanum.
276. *Oxalic acid*. Ox. ac. Oxalic acid. Saccharine acid.
277. *Pæonia officinalis*. Peon. Peony.
278. *Panacea*. Panac. Mercury of the poor.
279. *Paris quadrifolium*. Paris. Herb Paris. True love.
280. *Paullinia pinnata*. Paulin. (Paullinia sorbilis of Von Master.) Curruru. Timbo-lippo. Guaratimbo.

281. *Petiveria tetrandra*. Petiv. Mappa graveolens.
282. *Petroleum*. Petrol. Mineral oil. Rock oil. Barbadoes oil. Barbadoes tar.
283. *Petroselinum*. Petros. Parsley-root. *Apium petroselinum*.
284. *Phellandrium aquaticum*. Phel. Water-fennel. Water-hemlock.
285. *Phosphorus*. Phos.
286. *Phosphori acidum*. Phos. ac. Phosphoric acid. Acid of bones.
287. *Phytolacca decandra*. Phytol. Poke-weed.
288. *Pichurim*. Pich. Sassafras nuts. Pichurim-bean laurel.
289. *Pimpinella saxifraga*. Pimp. Burnet saxifrage. Stone-break.
290. *Pinus sylvestris*. Pinus. Wild pine. Pine buds.
291. *Platina*. Plat. Platinum.
292. *Platinum muriaticum*. Plat. mur. Muriate of platinum. Chloride of platinum.
293. *Plumbago littoralis*. Plumbag. lit. Picao da praia.
294. *Plumbum aceticum*. Plumb. ac. Acetas plumbi. Acetate of lead. Sugar of lead.
295. *Plumbum carbonicum*. Plumb. c. Carbonate of lead. White lead.
296. *Plumbum metallicum*. Plumb. Lead.
297. *Podophyllum peltatum*. Podoph. Hog-apple. May-apple. Wild-lemon. Duck's-foot.
298. *Pothos fœtidus*. Pothos. Ictodesfœtidus. Skunk.
299. *Prenanthes serpens*. Pren. serp.
300. *Prunus padus*. Prun. pad. Common bird-cherry.
301. *Prunus spinosa*. Prun. spin. Wild plum-tree. Sloe-tree.
302. *Pulsatilla niger*. Puls. Pasque flower. Meadow anemone. Wind-flower. *Anemone pratensis*.
303. *Ranunculus acris*. Ran. ac. Upright meadow crowfoot.
304. *Ranunculus bulbosus*. Ran. b. Bulbous crowfoot. Butter-cups.
305. *Ranunculus flamula*. Ran. f. Lesser spearwort. Crowfoot.
306. *Ranunculus repens*. Ran. r.

307. *Ranunculus sceleratus*. Marsh crowfoot. Celery-leaved buttercup.
308. *Raphanus sativus*. Raph. Radish. Black garden-radish.
309. *Ratanhia*. Rat. Rattany root.
310. *Resina itu*. Res. it.
311. *Rheum*. Rhm. Rhabarbarum. Rhab. Rhubarb. Rheum palmatum.
312. *Rhododendron chrysanthemum*. Rhod. Yellow rhododendron. Dwarf rose-bay.
313. *Rhus laurina*. Rhus laur.
314. *Rhus radicans*. Rhus rad. Poison vine.
315. *Rhus toxicodendron*. Rhus tox. Creeping poison oak. Poison ivy.
316. *Rhus veneneta*. Rhus ven. Varnish tree. Swamp sumach.
317. *Rhynchospora alba*. Rhyn. Whitebeak rush.
318. *Ricinus communis*. Ricin. c. Castor-oil plant.
319. *Rosmarina officinalis*. Rosmar. Rosemary.
320. *Rumex crispus*. Rumex c. Water-dock. Yellow-dock.
321. *Ruta graveolens*. Ruta. Garden rue.
322. *Sabadilla semen*. Sabad. Cevadilla. Indian caustic barley.
323. *Sabina*. Sabin. Savine. Juniperis sabina.
324. *Sambucus niger*. Samb. Elder.
325. *Sanguinaria Canadensis*. Sang. C. Blood-root. Indian puccoon. Red-root.
326. *Sarsaparilla*. Sars. Smilax sarsaparilla. Sassap.
327. *Sassafras*. Sass. Laurus sassafras. Sassafras bark.
328. *Schrofularia nodosa*. Schrof. Brownwort.
329. *Secale cornutum*. Sec. Ergot of rye. Spurred rye.
330. *Sedinha*. Sedin.
331. *Sedum acre*. Sedum. Stone-crop. Small house-leek. Prick-madam.
332. *Selenium*. Sel.
333. *Sempervivum tinctorium*. Semp. tinct. Common great house-leek.
334. *Senega*. Seneg. Snake-root.
335. *Senna*. Sen. Cassia senna.

336. *Sepia succus*. Sep. Inky juice of cuttle-fish.
337. *Serpentaria*. Serpent. Serpentry.
338. *Silicea*. Sil. Silex.
339. *Solanum arrebenta*. Solan. arreb.
340. *Solanum mammosum*. Nipple nightshade.
341. *Solanum niger*. Sol. nig. Black nightshade.
342. *Solanum oleraceum*. Sol. oler. Gyquinoba.
343. *Solanum tuberosum ægrotans*. Sol. tub. æg. Diseased potato.
344. *Spigelia anthelmintica*. Spig. Indian pink. Pink-root.
345. *Spiggurus martina*. Spigg. Porcupine.
346. *Spiræa ulmaria*. Spir. ulm. Meadowsweet. Queen of the meadows.
347. *Spongia tosta*. Spon. Spongia marina. Toasted sponge.
348. *Squilla maritima*. Squill. Sea-onion.
349. *Stannum*. Stan. Tin.
350. *Staphysagria*. Staph. Staves-acre. Louse-wort.
351. *Stramonium*. Stram. Datura stramonium. Thorn-apple.
352. *Strontiana carbonica*. Stront. Carbonate of strontian.
353. *Sulphur*. Sulph. Flowers of sulphur. Brimstone.
354. *Sumbul*. Sumb.
355. *Sulphuris acidum*. Sulph. ac. Sulphuric acid. Vitriolic acid. Oil of vitriol.
356. *Symphytum officinalis*. Symph. Comfrey.
357. *Tabacum*. Tabac. Tobacco.
358. *Tanacetum vulgaris*. Tanac. Tansy.
359. *Taraxacum*. Tarax. Leontodon taraxacum. Dandelion.
360. *Tartari acidum*. Tart. ac. Acidum tartari. Tartaric acid.
361. *Taxus baccata*. Taxus. Yew.
362. *Tellurium*. Tell.
363. *Terebinthina*. Tereb. Turpentine. Oil of turpentine.
364. *Teucrium marum verum*. Teucr. Cat-thyme. Wall germander.
365. *Thea Casarea*. Thea. Thea sinensis. Green tea.

366. *Theridion curassavicum*. Therid. Black spider of Curacao.
367. *Thuja occidentalis*. Thuj. Arbor vita. Tree of life.
368. *Tilia Europæa*. Tilia. Lime blossoms. Lime or Linden flowers.
369. *Tongo*. Tong. Tonkin beans.
370. *Tradescantia diuretica*. Tradesc.
371. *Triosteum perfoliatum*. Triost. Wild coffee. Horse gentian. White gentian. Fever-wort. Fever-root. Wild ipecacuanha. Bastard ipecacuanha.
372. *Tussilago petasites*. Tussil. Butter-bur.
373. *Urtica urens*. Urtic. Stinging-nettle.
374. *Uva ursi*. Uva urs. *Arbutus uva ursi*. Bear's-berry. Whortle-berry.
375. *Vaccinin*. Vac. Vaccine lymph.
376. *Valeriana officinalis*. Val. Valerian.
377. *Veratrum album*. Verat. White hellebore. Sneeze-wort.
378. *Veratrum viride*. Verat. vir. Green or American hellebore.
379. *Verbascum thapsus*. Verb. Yellow mullein.
380. *Verbena*. Verb. Vervain. Pigeon's herb.
381. *Viburnum prunifolium*. Viburn. Black haw. Nanny-root.
382. *Vinca minor*. Vinca m. Lesser periwinkle.
383. *Viola odorata*. Viol. od. Sweet violet.
384. *Viola tricolor*. Viol. tri. Jacea. Heart's-ease. Pansy.
385. *Zincum metallicum*. Zinc. Zinc.
386. *Zincum oxydatum*. Zinc. ox. Flowers of zinc. Oxide of zinc.
387. *Zincum sulphuricum*. Zinc. s. Sulphate of zinc. White vitriol.
388. *Zingiber*. Zing. Ginger.
389. *Zizia aurea*. Ziz. aur. Golden Alexander. Musquash-root.

This arrangement of the medicines proves the abundance of the curative agents which homœopathy

can, when fully and thoroughly studied, apply in subduing disease. It also shows how wrongly those judge the system, who think they have exhausted its resources when they have tried it merely under the guidance of some popular domestic work (however good within its limits), which gives directions for the use of only a small number of the remedies at the command of a really studious homœopathic physician.

## CHAPTER II.

### DOMESTIC PRACTICE.

THE CIRCUMSTANCES UNDER WHICH NONPROFESSIONAL ASSISTANCE MAY BE SAFELY RENDERED—ALSO THOSE IN WHICH DOMESTIC ASSISTANCE ALONE IS REPREHENSIBLE—THE FORMS, DOSES, AND MODES OF PRESERVING AND OF ADMINISTERING THE INTERNAL REMEDIES—AND THE PREPARATION AND USES OF NUMEROUS EXTERNAL APPLICATIONS.

I. THE vocation of the medical man embraces not only the personal inspection and cure of disease, but the removal of ignorance respecting the structure and functions of the human frame, and the best means of retaining its health. Within the last few years, many excellent works have been published, which have had this twofold object in view. Unprofessional individuals are not by any means so ignorant now, as they formerly were, of the laws which regulate the workings of their corporeal constitution. They are better able, therefore, to enforce their knowledge, and to guard against those deleterious influences which are ever at work undermining the bodily powers by slow and insidious approaches. Many medical men, holding enlarged views of the nature of their calling, have seen fit to extend these preparatory instructions to the treatment of some forms of disease in which their attendance is not absolutely necessary, or can-

not be readily procured. Although, therefore, it is not intended that medical assistance should be supplanted or superseded, they acknowledge the advantages attending the domestic management of accidents, or of trifling complaints. Danger, however, may be apprehended from the indiscriminate interference of uneducated persons, in some diseases, which always demand the skilful assistance of an accomplished physician. To guard against this as much as possible, several works have been published by homœopathic practitioners, in order to place the resources of the best healing art within the reach and comprehension of every one concerned. They profess to convey, in popular and intelligible language, an amount of knowledge regarding the most common forms of disease, and the best means of overcoming them, which ought to be possessed by every head of a family, by missionaries, clergymen, travellers, and, in short, by every one who values health and longevity.

Domestic medicines may be safely and advantageously employed under the following circumstances :—

1. When a person is suddenly seized by a violent disease, which runs a rapid course, and might prove fatal before medical aid arrives.

2. At the beginning of all diseases, in order to retard the progress of the complaint, and to ward off danger, until the regular medical attendant can undertake its treatment.

3. In diseases which occur at night, or at any



other time, when there may be some difficulty in finding the physician, and time lost before he can arrive.

4. In minor affections, that are too trifling in their nature to require medical aid.

5. When the invalid prefers assuming the responsibility of self-treatment, to the disagreeable alternative of allopathic appliances.

6. When the individual, who may be an emigrant, missionary, traveller, etc., and therefore exposed to numerous bodily risks, and far from professional assistance, is afflicted with disease which requires prompt attention.

On the other hand, a medical man is alone competent to manage, *firstly*, all acute diseases, which run a rapid course, such as cholera, fevers, etc.; *secondly*, all inflammatory affections involving important organs; *thirdly*, all severe accidents, such as burns, scalds, drowning, etc.; *fourthly*, all long standing and complicated diseases, which invariably require much knowledge and skill in the selection of remedial measures; and, *fifthly*, to speak in general terms, without further enumeration of individual deviations from health, in all cases where life is jeopardized and death imminent.

II. The medicines employed in domestic practice are generally selected to correspond to the work consulted, each treatise recommending particular remedies, which the respective authors consider best suited to the diseases they describe. Some of these works

are adapted to boxes or chests, containing from twenty-four to a hundred or more different remedies.

The medicines may be divided into two classes, viz., *internal* and *external*.

INTERNAL MEDICINES.—1. *Their Forms*.—The internal medicines are prepared in four forms, viz.:—*Tinctures*—which contain the active principle of the drug more or less concentrated; they are seldom used in domestic practice, but frequently, in acute diseases, by medical men. *Pilules*—an excellent form of the medicine, and very convenient for dispensary purposes. *Globules*—which are employed chiefly in domestic practice. And *Triturations*—in which form all insoluble substances are prepared up to the third attenuation.

2. *Their Doses*.—The dose of the tinctures is from one-fourth of a drop, to a drop. The drop may be easily divided into any number of fractional parts, by mixing it with as many tea-spoonfuls of water, and taking one spoonful for a dose. The best method of dropping the tinctures accurately is to place the lip of the bottle on the cork, which must be held in a sloping direction; then gently tilt the bottle (as in the engraving, on the top of next page), when the tincture will flow down the cork, and drop from the lower edge; thus a single drop or any number of single drops may be obtained. The dose of the globules is three for an adult; one or two for an infant. The dose of the pilules is one for an adult; one-half for an infant. The dose of the triturations is from half a grain to a grain for an adult, and from a quarter to

half a grain for an infant. The foregoing quantities apply to *all* the medicines in these respective forms.



For all practical purposes the following may be considered equivalent proportions :—

One grain of trituration ;

One drop of tincture ;

Four pilules ; or

Twelve globules.

3. *Their Attenuation.*—The word attenuation means the subdivision of the particles of matter, either by solution in a fluid, or by crushing. It is used in our system to express the *degree* of subdivision of a medicinal substance. The attenuations in most common use are the 3rd, the 6th, the 12th, and the 30th ; but all the intermediate ones are prepared by, and may be purchased of, any respectable homœopathic chemist.

4. *Their Preservation.*—The medicines will keep many years if placed in a dry, clean, cool place, from which all light, especially the sun's rays, is excluded.

Scents or odours injure them, and also contiguity to the odorous particles of camphor. Earthenware spoons are the best for measuring, stirring, and taking the medicines. Those made of metal are objectionable, but if used should not remain in the mixture, and ought to be carefully wiped after measuring each dose. The medicines may be mixed with water in cups, tumblers, or bottles, taking care that they are perfectly clean, and protected from the entrance of dust floating in the air, by being corked or otherwise covered. Bottles containing tincture should be kept standing upright, with the cork screwed tightly down, to prevent evaporation of the spirit. The water should be perfectly pure; filtered rain water is the most exempt from mineral, vegetable, and animal impurities; boiled water allowed to cool is suitable.

5. *Their Administration.*—The medicines are directed to be taken every half-hour, or every three or four hours, or night and morning, or at any other stated period; the frequency of the dose depending upon the effect desired, and that being regulated according to the violence of the symptoms. When two medicines are used, the doses of each have to be alternated, or taken *alternately* or in *alternation*, which means, the act of following and being followed, by another medicine, at certain intervals of time and in regular order of succession. The dose should not be taken during the hour which precedes nor the one which succeeds any meal. The patient must never, under any circumstances, be aroused from his sleep in order to take the medicine. Children seldom exhibit

any dislike to take homœopathic medicines, but sometimes, when restless and irritable in temper, difficulty may be experienced in administering it dexterously. In such cases, the child's head and arms should be held firmly by the nurse, whilst another attendant gently and gradually inserts the spoon, filled with the medicine, into the mouth. It should be placed pretty well back on the tongue; then tilt the handle up, and the fluid will leave the hollow of the spoon and pass down the gullet, because the child has no power to prevent swallowing; or, the medicine may be administered by simply placing it dry upon the tongue.

6. *Their Genuineness.*—It is exceedingly important to procure the medicines in their purest and most genuine form. Unless they be obtained and kept in this condition, remedial action will be looked for in vain; disrepute to the system and death to the patient may be the consequences. The only safeguard, and it is a good one, is to purchase the medicines from an educated and respectable chemist, whose whole time and attention is devoted to the preparation of homœopathic medicines exclusively.

7. The *homœopathic preparation of Camphor* merits separate notice. Being volatile, that is to say, capable of wasting away on exposure to the atmosphere, it must be kept apart from the other medicines; a separation which is more especially requisite, as it counteracts the action of nearly all the homœopathic medicines. It may not be out of place to mention some of the *uses* of camphor. It is of service in all cases com-

mencing with chilliness and shivering; in giddiness; pain, weight and pressure, or other sensation at the pit of the stomach; in cramps or stiffness in the calves of the legs, or in the muscles of the arms; for sensations of general uneasiness; in sudden loss of strength, pain in the bowels, and excessive purgings; and, lastly, at the beginning of most diseases. One drop ought to be taken on a piece of sugar, or mixed with a tea-spoonful of water, and repeated every quarter of an hour until three doses have been taken. In cases of cholera, two drops may be administered in the same medium, every ten, fifteen, or twenty minutes, according to the violence of the symptoms and the degree of amelioration.

III. THE EXTERNAL APPLICATIONS.—These act directly upon the diseased part, and thus assist the internal remedies in restoring health. We shall consider each application separately.

1. ARNICA.—This remedy may be applied externally in the forms of *lotion*, *cerate*, *arnicated balls*, *liniment*, *opodeldoc*, or *plaster*, etc. The most important and most frequently used of these forms is the lotion, which is made by adding one part of the mother *Tincture of Arnica* to twenty parts of water. It is applied to the part affected by saturating a linen or cotton cloth, which must be laid on the surface of the wound, and covered with oiled silk to prevent the evaporation of the fluid. *Arnica* is used in all kinds and varieties of injuries produced by mechanical violence, such as sprains, falls, contusions, and bruised

or lacerated wounds; also for corns, chilblains, chapped hands or lips, rheumatism, and after surgical operations.

*Caution.*—In some cases of peculiar susceptibility, *Arnica* produces a troublesome eruption resembling erysipelas, especially if the lotion is used stronger than directed above. Where this is the case, it must be entirely abstained from, and *Helianthus annuum* or *Calendula* used as a substitute.

2. CALENDULA is used in the form of a lotion, made by mixing one part of the mother tincture with four parts of water. It may be used, in the same way as *Arnica*, in cuts and in all lacerated or other wounds which will not heal without the formation of matter. *Calendula court-plaster*, is a convenient application in adjusting and retaining the edges of slight cuts so as to leave no scar or disfigurement.

3. RHUS.—The *lotion* is made by mixing from five to ten drops of the strong tincture with a table-spoonful of water. The *liniment* is, however, the best form for applying *Rhus*. It is used in sprains, rheumatism, etc., being well *rubbed into* the part affected.

4. CANTHARIDES.—This medicine has been found exceedingly valuable in burns and scalds, especially if applied immediately after the accident, before any other applications have been resorted to. Thirty drops of the tincture at the second attenuation, added to two table-spoonfuls of olive or of salad oil, should be smeared upon the injured surface, which is afterwards to be covered with layers of clean cotton wool, in order to exclude the air.

5. CAUSTICUM, in the proportion of six drops of the third dilution to every tea-spoonful of water, and applied by saturating a linen rag, is of service in burns and scalds when some time has elapsed since the casualty.

6. HAMAMELIS VIRGINICA is a useful external application to enlarged (varicose) veins on the leg. It may be used by saturating pieces of linen with the lotion, which is made by mixing a table-spoonful of the mother tincture with four table-spoonfuls of water; the pieces of linen so saturated are to be placed upon the distended veins, and the leg is then to be bandaged from the foot to the knee.

It may also be applied in the same way to piles, the compress of linen being retained by a bandage passing between the thighs, and attached in front and behind to a band encircling the loins.

7. HELIANTHUS ANNUM.—This remedy is useful in the same class of cases as *Arnica*, and may be used as a substitute, where the latter is apt to disagree.

8. ACONITE.—This powerful medicine has been successfully applied, in the proportion of ten drops of the strong tincture to a wine-glassful of water, in various affections, in which the predominant symptom was excessive and excruciating pain.

9. COTTON, soft and finely carded, is a popular and very proper application in burns and scalds.

10. FLOUR is another handy substance to apply to burns or to scalds.

11. CURD SOAP is also employed in similar cases. The further consideration of these three substances



will be resumed when the treatment of burns and scalds is enjoined.

12. **POULTICES.**—These well-known applications serve several useful purposes. They combine both warmth and moisture, the effects being to assuage pain, to relax tense structures, to promote the formation of matter, and to hasten its approach to the surface of the skin. Several kinds are used, and will now be described. They are:—

(1.) The *bread poultice*, which is best made according to the instructions of Dr. Epps, who orders old, stale bread, rubbed into fine small crumbs, which should have boiling water poured on to them; they should then be boiled together in a saucepan for one or two minutes, constantly stirring; add a little butter or lard at the last. It is to be laid on a piece of cotton or linen rag, and applied to the part requiring it.

(2.) *Bran poultice*, according to Druitt:—"Make a flannel or linen bag of the size requisite to cover the part affected, and fill it loosely with bran. Pour boiling water on this, till it is thoroughly moistened, put it into a coarse towel and wring it dry. Then apply it as soon as it is cool enough."

(3.) *Bread and suet poultice*, prepared according to Druitt as follows:—"By mixing equal parts of bread-crumbs and mutton-suet, grated very fine, with a little boiling water, and stirring them in a saucepan over the fire, till they are thoroughly incorporated. It is a very admirable soft poultice for parts that are excoriated, or that threaten to slough during long illnesses."

(4.) *The oatmeal poultice* is prepared by gradually and slowly stirring small quantities of oatmeal into a pan containing boiling water, until it acquires a thickness sufficient to enable it to be applied, on a rag, to the affected part. •

(5.) *The carrot poultice* is best made by boiling the carrots until they become soft, after which they must be bruised into a pulp, and applied like the others. It is an excellent application in scrofulous, cancerous, and other unhealthy sores with little disposition to heal and attended by offensive discharge.

(6.) *The fig poultice*, an agreeable, suitable, and convenient way of relieving the pain, and promoting the maturation of a gum-boil, is used by applying the cut surface of an ordinary fig to the part affected.

(7.) *The linseed-meal poultice* is the one in most common use and the most esteemed, because it possesses all, or nearly all, the advantages of the others. The justly celebrated Abernethy orders it to be made as follows:—He says, “scald your basin by pouring a little hot water into it; then put a small quantity of finely-ground linseed-meal into the basin, pour a little hot water on it, and stir it round briskly until you have well incorporated them; add a little more meal and a little more water, then stir again. Do not let any lumps remain in the basin, but stir the poultice well, and do not be sparing of your trouble. If properly made, it is so well worked together that you might throw it up to the ceiling and it would come down again without falling in pieces, it is, in fact, like a pancake. What to do next is to take as much of it

out of the basin as you may require, lay it on a piece of soft linen, let it be about a quarter of an inch thick, and so wide that it may cover the whole of the inflamed part."

Poultices should be moderately soft, and large enough to cover entirely the part affected; but not heavy, else the patient will complain of the weight. They should, generally speaking, be renewed night and morning; the exceptions to this occurring in cases attended with much pain and inconvenience in the adaptation of the poultice. When matter is issuing from any part of the body's surface, the poultice should be kept applied until the pain has subsided and the healing process has begun at the bottom; the poultice being changed, in such cases, every night and morning for the sake of cleanliness.

(8.) *Spongio-piline*.—A convenient and elegant method of applying both heat and moisture to the abdomen in colic, to the chest in pleurisy, and to other parts which require soothing and relaxing. It has this advantage, that it can be washed clean and used any number of times.

13. FOMENTATIONS have much the same effect as poultices, in imparting warmth and moisture to the part affected. The best form of fomentation is the application of coarse white flannel, dipped into, and afterwards wrung out of, boiling water; this is then to be applied loosely, and as 'hot as the patient can bear. The size of the flannel, of which there ought to be two pieces, to be used time about, will, of course, depend upon the part on which they are placed. When

laid over the abdomen in cases attended with severe pain in that region, the flannel ought to be well wrung out to prevent the bed becoming wet, and proving a source of annoyance to the invalid.

14. DRY HEAT, applied by several means, is of great service in severe and deeply-seated pains. It may be employed by means of—1. *Flannel*, which, on account of its coarse, loose texture, entangles air between its fibres, and is besides a substance through which heat does not quickly pass to other bodies. It should be applied loosely, and next the skin. 2. *Plates of iron*, enveloped in flannel, or the stomach-plate, made purposely to apply in cases of cramp of the stomach. 3. *Hot bricks*, or *bottles filled with hot water*, and wrapped in flannel. 4. *Salt-bags*. These several ways of applying heat have their special recommendations, and are of easy and convenient use in cramp, and in apparent death from drowning, etc.

15. BATHS, in the form of cold, or tepid, or hot water, or of vapour, besides being of very considerable utility in various diseases, are a most important means of retaining sound and vigorous health. Their consideration, as remedial agents, will therefore be deferred until we come to speak about them in reference to their employment in the preservation of health.

## CHAPTER III.

### SICK-ROOM, NURSES, ETC.

OF THE FURNITURE, SITUATION, TEMPERATURE, AND VENTILATION OF THE SICK-ROOM—DISINFECTANTS—THE DUTIES AND QUALIFICATIONS OF NURSES AND OF ATTENDANTS ON THE INVALID—THE DIET AND MODES OF PREPARING FOOD FOR THE VALETUDINARIAN.

I. DISEASE and death are our common portions ; we are familiar with, and must sooner or later submit to their infliction. It is, however, the duty of all to avail themselves of those means which are calculated to mitigate the severity of the one, and to temporarily ward off the approach of the other. On the one hand, they can procure the assistance of the medical man, who will resort to all the appliances within his reach and knowledge that can have a direct influence in subduing disease ; and, on the other hand, they can employ the collateral and most important agency exercised by those engaged in the tender office of nursing. The medical man and the nurse have, in their different spheres, the same object in view, namely, the restoration of the patient, or, if that be impossible, the alleviation of his sufferings, and the promotion of his temporal welfare. Our

remarks must, however, be exclusively restricted to a consideration of the various duties which fall within the immediate province of the nurse. It is scarcely necessary to say, that the patient's mind is much comforted and his bodily ills relieved by kind and sympathetic attendants; it acquires a repose and placidity which accord better than irritation and unrest, with the solemnities of affliction, and the prospective uncertainties of the individual's existence. But unless the kind efforts, which the illness of a friend or of a relative is sure to excite, be carefully and judiciously adapted to the patient's condition and wants, more harm than good would be done by acting upon that peculiar irritability of mind which is so frequent an accompaniment of bodily suffering. These causes of annoyance to the invalid are frequently ascribable to ignorance, or to officious zeal. The following remarks may tend to remove the former, and to moderate the latter; whilst they may prove not unacceptable to those whose duty or calling requires them to solace and cheer the pained and exhausted sufferer.

II. THE SICK-ROOM.—The sick apartment should be lofty, spacious, and well ventilated, but without currents of air, in order to ensure a uniform and medium temperature. For the sake of quietness, it should not be situated over the kitchen, or facing into a throng thoroughfare, for the patient may be annoyed by the constant passage of vehicles and pedestrians. It should, if possible, face northwards, so that the entrance of light may not annoy the

patient. An open fire-place, and a chimney which "draws" well, are desirable.

The doors must make no noise, either when opening or closing. The windows should have the upper sash movable, and the shutters and blinds belonging to it should be so constructed as to be capable of admitting or of excluding the rays of light, according to existing necessities. The patient will sometimes experience much relief, when the window is directly opposite to him, by interposing a green curtain. The floor must be firm and noiseless when trodden upon; and the paper should be of a uniform colour, and free from all figures or patterns, especially of the spotted or wavy sort.

The bed should be placed in that part of the room where the air cannot accumulate, and where the nurse can conveniently attend upon its occupant; the curtains should be removed, for they exclude the pure, and confine the impure, air, and thus heat the patient, hurry his breathing, and otherwise distress him. The height of the bed must be regulated according to the requirements of the nurse; it should be carefully and evenly made; there should be no lumps of feathers, and no part of the surface should be higher than another, except in special cases, where it is desirable or necessary to raise a portion of the patient's body. The material composing the bed will depend upon the nature of the complaint. In some cases, hair mattresses are preferable; in others, the air or the water-bed. The air-bed consists of an india-rubber bag, as large as the ordinary bed, divided

into several compartments, which do not communicate with one another. It is furnished with stop-cocks, which regulate the quantity of air introduced by means of common bellows. The water-bed admits water into a trough composed of wood, until it reaches rather higher than the level of an elastic waterproof sheet, which is attached to the inner side. Both these beds adapt themselves to the frequent changes of the patient's position, on account of their containing elastic fluids. They are well suited to invalid's suffering from a lingering illness, in whom bed-sores are not unfrequent, in consequence of the unequal pressure of the ordinary bed upon some prominent part of the body.

On a table, near the patient, should be placed the following articles:—his toast and water, or other drink, in a half-covered cup, with handle and spout, so that he can at any time allay his thirst without changing the supine position; his medicines and their corresponding spoons; and any other thing which he frequently requires.

Another table should have the following articles upon it:—writing paper, pens and ink, with which to jot down any occurrence affecting the patient's condition that may be of consequence to communicate to the medical attendant; with these materials the prescription can be written, if necessary; two clean tumblers or cups, a mug of pure, filtered, cold water, and two earthenware spoons should also be at hand.

A narrow piece of carpet may be laid along the



floor, by the sides and bottom of the bedstead. These pieces can be readily taken up whenever the floor requires sweeping; it must not be *washed*. If the apartment be large enough to contain, without inconvenience, another and smaller bed, the patient may be occasionally removed to it; the change frequently soothes and affords relief. A reclining or easy chair, or a couch or sofa, in the sick-room, or in an adjoining apartment, is a desirable article of furniture. The patient can then be removed, if practicable, when the bed requires making, or the linen changing; or when alteration of position is desirable. Two ordinary bed-room chairs should complete the appointments of the sick-room. Other articles of furniture, or anything else that may be required for the patient's use, must be kept in a room adjoining.

There are two conditions of the sick-room, in reference to which it is necessary that we should offer a few observations. They are *temperature* and *ventilation*.

III. THE TEMPERATURE OF THE SICK-ROOM.—This is a matter of no little moment. It is specially important in chest diseases, for the air, during the process of breathing, is brought into direct contact with the delicate membrane which lines the air-passages. In consumption, bronchitis, and other affections of the lungs, a uniform temperature of about sixty degrees, according to Fahrenheit's thermometer, should be maintained. In fevers, attended with hot skin and rambling, the temperature should be lower, especially if the apartment be badly ventilated and pent up.

This is especially necessary in the dwellings of the poor, who, besides living in rooms so constructed as to be almost incompatible with the long continuance of health, have a stupid and mischievous prejudice against pure air. It is, of course, beyond the scope of this work to particularize the degree of temperature suitable to every disease; it is the medical man's province to see that it is suitable to the requirements of the patient. In some cases it has to be regulated by the thermometer; in others, it must be adapted to the feelings of the patient. Great caution must be exercised not to expose the patient to currents of air when attempting to moderate excessive heat; and also to prevent him encountering extreme and sudden transitions, either in, or after he has left, the sick-room.

IV. VENTILATION OF THE SICK-ROOM.—Ventilation has for its object the maintenance of a pure atmosphere, in rooms and other places, by the constant and gradual admission of fresh air, and the displacement of that which has been already breathed or otherwise contaminated. In this place we can refer to ventilation only in connection with disease, and our remarks must necessarily be succinct. Air which has been frequently respired cannot support animal life. In the sick and close chamber, it is rendered still more noxious by the various emanations from the diseased body, and unless it can be removed, and a fresh supply of pure air be admitted, not only will the chances of recovery be fewer, but the attendants are rendered more susceptible of disease. Where

ventilation is defective, the attendants inhale an atmosphere laden with poisonous matter from the affected body of the invalid, which, under certain favourable circumstances, engenders in the sound frame a disease identical to that already existing in the patient. To diseases arising in this way, in consequence of the existence of a poison in the air, the term *infectious* is applied. Typhus fever, whooping-cough, small-pox, measles, scarlet fever, chicken-pox, influenza, erysipelas, plague, etc., are examples of diseases which are propagated from diseased to healthy individuals by infection. Other diseases are termed *contagious*, and depend upon contagion, which, in its strict acceptation means the communication of disease by contact. The diseases produced in this way include glanders, gonorrhœa, syphilis, itch, purulent ophthalmia, etc. In common language, however, the words *infection* and *contagion* express the same meaning, viz., the communication of a disease from a sick man to a healthy one, either by personal contact, or by inhaling the exhalations arising from his body. The sources of infection will be considered under disinfectants. The importance of deciding as to the infectious nature of various diseases is unquestionable. It not unfrequently happens that friends and even relatives shun the poor invalid stricken with some dire malady, because they fear exposing themselves to the influence of a communicable disease. This is especially the case with cholera, which the ignorant regard as the most infectious of all diseases. It is, however, satisfactory to say, that

the tide of professional opinion flows in the opposite direction. In all such diseases, the liability to be seized will be much less if the individual observe due cleanliness of person and temperate habits, combined with a good and generous diet, and freedom from mental depression. But, on the other hand, no circumstances favour the propagation and extension of infectious diseases so much as the following:—Intemperance; deficient or bad food; long-continued exposure to moisture and to cold, especially if the house be damp and badly drained; anxiety, fear of being attacked by the prevailing disease, care, discontent, and other depressing mental emotions; want of rest; fatigue, long watching, and defective ventilation. Hence the necessity of nurses having a sufficiency of rest and a generous diet, but without brandy or other spirit. To those who are more immediately endangered by exposure to infection, it will be satisfactory to know that they may calculate, with certainty almost, upon immunity from the disease by a careful observance of the following suggestions:—In waiting on the patient, always stand between the current of fresh air and the patient, never placing yourself where the contagious matter can be blown from his body on to your own; do not incline your body over the patient's; avoid inhaling his breath; pay strict attention to your own general health, and evade all the predisposing causes. Be particular to ventilate the room well; if this be not attended to, the infectious matter will gain greater power by being mixed with stagnant air; it will be

come absorbed by all the porous substances in the room, and may, in another place and at a future period, return to full activity in communicating disease to a healthy district. The substances which entangle and retain the infectious matter emanating from the diseased body, comprise feathers, hair, wool, cotton, and other similarly porous articles. This remark will furnish a hint to the nurse as to the material of her apparel. Other means of preventing the injurious consequences of infectious matter will be considered in the next paragraph.

V. DISINFECTANTS.—This term is applied to substances which have the power of decomposing noxious effluvia and infectious matter, so that they are made incapable of acting injuriously upon the healthy body. The infectious matter, when absorbed into the system by the blood in the lungs, is endued with the power of inducing phenomena of decay, of which it is itself a product. This matter exists in the atmosphere, and is derived from the decomposition (or disunion of the elements) of animal and vegetable bodies. After the extinction of vitality they are subject to chemical laws, and are resolvable into various elementary or compound gases, which are more or less deleterious to living structures. The sources of infection are various. Thus, it emanates from ponds, stagnant pools and marshes, where the conjoint influences of moisture, light, heat, and vegetation favour the liberation of gaseous impurities. Decaying animal and vegetable matter, such as exists in stables, and pig-sties, accumulations of manure, cess-pools, water-closets, etc.,

are fertile causes of infection and disease. These heaps of rotting matter are allowed to collect in the immediate neighbourhood of our houses, and cannot but injure public health. They should be removed as often as possible; taking the precaution to use some efficient disinfectant to deodorize or to decompose the hurtful gases. Towns are specially liable to become involved in the mortality consequent upon the extension of infectious matter. The air in towns is made impure by particles of unconsumed carbon; by the refuse of various manufactures; by the accumulation of organic matter and of pernicious gases, the result of animal and of vegetable decay in either living or dead bodies: all these foul impregnations become concentrated in the unventilated atmosphere of our large towns. To the foregoing sources of infection, we must add the poisonous exhalations given off from the body during disease. Although man is thus exposed on all hands to direct influences which operate upon his health in accordance with unknown laws, yet he can, to a considerable extent, counteract these injurious vitiations, by availing himself of natural disinfecting agents. Amongst these we may enumerate ventilation, water, light, heat, and cold. The mortality from disease would be much diminished, and general public health much improved, were these considerations taken into account in the erection of buildings, so as to ensure complete ventilation, plenty of light, and the other essentials of a good habitation; and in the correction of such habits of life as are known to militate against health. They are also, to a

certain extent, applicable to the sick-room; but the most efficient disinfectants of an artificial kind will now be considered. All articles of clothing or of merchandise, which are imbued or impregnated with infectious matter, should be subjected to a high heat, to currents of air, and to soap-and-water washing, steaming or boiling. The use of various disinfecting substances to prevent the dissemination of the infectious matter is necessary, both during the course of illness and after it has terminated. In addition to this, the furniture and other appointments of the sick-room should be well washed with soap and water; the walls re-papered or white-washed, and the wood-work repainted, after illness from infectious diseases.

1. *Chlorine*.—This powerful disinfectant may be cheaply procured by thoroughly mixing three parts of common salt with one part of the binoxide of manganese, and by adding thereto, two parts of oil of vitriol, mixed with two parts of water. Several chemical changes ensue, the result being the evolution of chlorine in the form of a greenish, pungent, suffocating gas. It irritates the nose, wind-pipe, and lungs, and, if breathed in its undiluted state, will destroy life. When used, the above materials must be placed on an earthenware dish, and allowed to remain for several hours within the closed doors of the impure room. Air must afterwards be freely admitted, to displace the chlorine. Of course this is applicable in disinfecting an apartment only after the patient has been removed.

2. *Chloride of Zinc* has been much employed in the

form of Sir William Burnett's Disinfecting Fluid. It can be purchased of most chemists, full directions as to its use being given on the bottle.

3. *M'Dougall's Disinfecting Powder*.—This is, perhaps, the most valuable disinfectant that has hitherto been introduced. It effectually, cleanly, and rapidly disinfects sick-rooms, damp cellars, stables, sewers, foul linen, and, in short, all sources of noxious odours and of infectious matter. It can be scattered over the surface, or mixed with water, or a disinfectant gas can be liberated from it, on the addition of a little oil of vitriol. It has also this important desideratum to agriculturists, that it does not injure the fructuous ingredients of manure. The powder is composed of sulphurous acid, combined with magnesia and with lime, to form the sulphide of magnesia and lime; of carbolic acid, procured from the oil of coal tar, combined with lime, to form carbolate of lime; free lime also enters into its composition.

5. *Charcoal*.—The carbon which is left after the submission of wood to destructive heat, atmospheric air being excluded, is known as charcoal. When quite fresh, and reduced to a coarse powder, it is a disinfectant to which the most rigid homœopathic practitioner cannot object. It removes stench, by its property of absorbing certain volumes of the noisome gas between its particles, and it also destroys the peculiar organic matter upon which infection depends.

VI. ATTENDANTS ON THE SICK.—The invalid should not, if possible, be left to the care of a hired



nurse, even though she possess every requisite qualification for the performance of her onerous duties. His perturbed mind is calmed, and his pained body is relieved, by the constant presence of one more or less intimately connected by the bond of kindred, or the ties of association, whose interests are largely involved in the chances of his recovery. The gentle, loving, considerate, and self-sacrificing offices which a wife, a mother, or a sister can perform for his special behoof and welfare; the tones of endearment or of sympathy which are poured into his willing ears; the winning, cheerful, smiling face, which is ever near him, in moments of anxiety and of foreboding; the delicate attentions and the never-tiring patience of a good woman;—all these exercise a very considerable influence upon the invalid, by inducing him to connect the happy, contented, healthy days of yore, with the hope and confidence which still buoy him up regarding his own share in the events of the future. Who better able than a wife or a mother to understand the disposition of her invalided husband or son? to anticipate and provide for his every want? to control his petulant, querulous inclinations? to administer the consolations of religion? to receive and carry out the instructions of the medical attendant, and, with all gentleness, to refuse compliance with desires which might injure rather than benefit the patient? But a hired nurse is almost indispensable in cases of severe or long-continued illnesses, that require constant attention. A person suitable in every respect to manage a

sick-room is rarely met with. Before engaging the services of a nurse, inquire as to the possession of the following qualifications:—Vigorous and unimpaired health; strength and activity; a happy, cheerful, and conciliating disposition; an equable temper, capable of resisting all provocations and grumblings; a kind and sympathizing manner and address; a taste for plain, neat, clean attire; a prepossessing countenance; a firm and collected bent of mind; honesty, sobriety, and other moral traits of character; the middle-age, that is, from twenty-five to fifty; and, lastly, sufficient general education to enable her to rightly comprehend, and to scrupulously apply the instructions of the medical man, without interposing any practices or suggestions of her own. This is the general outline of a model nurse, one that is rather difficult to meet with in actual practice, but still one that ought to be found and—prized.

Such a nurse will know in what her *duties* consist. There are, however, some who are not learned in their calling, and to whom the ensuing brief hints may not misapply.

Nurses—remember that bodily suffering affects the mind, and that you will but increase the dangerous nature of the disease which afflicts the invalid, unless you accommodate your services to his requirements. Therefore let your sole thought and aim be compassionate and assiduous attention to whatever will enhance his comfort of body and tranquillity of mind. Be kind, cheerful, and good-tempered, bearing patiently and complacently with his fretful dis-

position and capricious desires, which he can scarcely help or control. If you cannot accede to his wishes, refuse them firmly but gently, so as to avoid causing pain and disappointment. Ascertain in what way you can anticipate and minister to his inclinations, and avoid objects and topics of his dislike; but do not be officious in your interference. Be calm and quiet in manner, voice, appearance, and movement, under circumstances no matter how trivial or momentous, for his jaded and acutely sensitive frame will be tormented even by the most trifling incident. Attend to, and as far as possible believe in, his statements, for he will be annoyed if you give him room to doubt your agreement with him. Permit no disputing amongst visitors within the patient's hearing; no loud talking, and silence all whispering. Do not allow visitors to converse with him when you observe his dislike to it; under similar circumstances, bridle your own mouth and hold your tongue. Do not let a rustling dress, a creaking door or floor, the opening or closing of a door, the putting on of coal, the removal of furniture, or any other little matter of the same sort, annoy your charge a second time. Insist on perfect stillness being observed, not only in the sick-chamber but throughout the house. Do not leave the room for long at a time, and if the invalid should ring his bell to require your attendance, answer the summons directly. Take care that the room is kept well ventilated, in order to ensure the entrance of pure fresh air and the removal of all the impurities emanating from the invalid's body. This is especially requisite in fevers, small-

pox, and in all other "catching" diseases. Frequently change his personal and bed linen, and see that it is removed from the house to be washed as speedily as can be. Thoroughly air fresh clothing.

And now about yourself. Stick no pins or needles into your dress lest they prick the patient. Cook and eat your meals in another apartment, for his sake and your own also, that you may obtain some relaxation and change. Do not, if you can help it, fatigue yourself by sitting up late at night. Abstain, by all means, from wine, brandy, or other spirits; they will do you harm. Use some plain and refreshing beverage, amongst which there is no better or wholesomer than pure cold water. Live on a good, generous diet. Walk in the fresh morning air. Attach great importance to personal cleanliness. Be neat and tidy in your dress, duties, and arrangements, and you will be worth having.

VII. ON THE DIET OF THE SICK.--In another place in this work a few remarks are made on diet, with more especial reference to homœopathy. We have now to consider its relation to disease, as an aid to medicine in effecting the restoration of health. Every experienced physician, no matter to what particular system of medical treatment he may belong, must acknowledge the influence of dietary regulations and restrictions upon the cure or relief of many complaints. A necessity exists, in many diseases, which requires the food to be adapted to the condition of the patient. We cannot, of course, in this work be expected to point out the most suitable foods to be

taken under special circumstances, but the following illustrative cases may not inaptly or superfluously confirm the foregoing statements.

Thus, fevers and inflammations, and many other severe affections, are accompanied by want of appetite and loss of power in the stomach to digest food. Hence the diet must be restricted, in some cases, to water solely, for the purpose of slaking thirst; in others, to barley-water, oranges, gruel, toast-water, or such other simple materials, which, being of easy digestion, and containing little nutriment, cannot aggravate the disease by accelerating the circulation.

Again, in various diseased states of the stomach itself, the nature, no less than the quantity of the food, and other collateral circumstances, must be strictly regulated. Some require arrow-root, sago, rice, gruel, and other foods of the same class, all solids being rigidly abstained from; whilst nutritive fluids, such as broths, soups, and jellies, are indispensable to others.

Again, wasting of the body and general exhaustion would soon ensue from the excessive and constant draining of the system, consequent upon those severe injuries which require much repairing, or which are followed by profuse discharge, unless the patient be fed upon the most liberal scale.

Again, after recovery from acute and violent diseases, ere the patient's strength is invigorated, and while his stomach is yet implicated in the general weakness, a very cautious and gradual transition must be made to a richer and more nutritive diet. In such cases, light vegetable foods, fish, broths, and mutton,

are the kinds of aliment which should be taken. The return of the natural appetite will afterwards announce the ability of the stomach to deal with ordinary alimentary substances.

VIII. FOOD, AND ITS PREPARATION FOR THE SICK AND THE CONVALESCENT.—We now purpose considering the nature, properties, and uses of several popular and esteemed articles of food, suitable to both the sick and the convalescent. As a collateral branch of the subject, we must not omit to mention the best modes of rendering them palatable to the taker. In doing so it is very far from our intention to cast any reproach upon that intimate acquaintance with domestic duties, which every Englishwoman is presumed to possess.

1. *Arrow-root*.—A white, inodorous, light powder, of pure starch, derived from the root of a plant native to the Indies. It contains considerable nutriment, and being easy of digestion is admirably suited to children and infants; in cases of relaxed bowels, and to those whose occupation is of a sedentary character.

It may be prepared in the following ways:—

(1.) *As a jelly*.—Mix a dessert-spoonful with a sufficiency of water to make it into a soft paste; pour on half a pint of boiling water or of milk, stirring briskly; boil for a minute or two; sweeten with lump-sugar.

(2.) *As a pudding*.—Rub a table-spoonful with a little cold water; add, stirring, a pint of boiling milk; also, one egg and three tea-spoonfuls of powdered white sugar already mixed up together; after mixing all together, bake or boil.

(3.) *As a custard*.—To a dessert-spoonful, with a cupful of cold water, add four well-beaten eggs, and then half a pint of boiling milk; sweeten and flavour.

(4.) *As blanc-mange*.—Make a paste with two or three table-spoonfuls and a little water; add thereto, continually stirring, one pint and a half of boiling milk, in which a quarter of an ounce of isinglass has been previously dissolved; flavour; boil two minutes, stirring; pour into mould, and let form.

2. *Artificial ass's milk*.—Dissolve two ounces of sugar of milk (purchasable of a homœopathic chemist) in half a pint of boiling milk; add a pint of skimmed cow's milk; drink warm, and take exercise.

3. *Broth, cold* (Liebig's).—Cut half a pound of fresh lean meat into very small pieces; put into an earthenware vessel with a pint of cold water; add a pinch or two of common salt and four drops of strong, pure muriatic acid; let it stand two hours in a cool place (no heat must be applied); strain through a hair sieve without pressure, and again strain if not clear. There is left a clear, reddish-coloured fluid, of a pleasant, broth-like taste, which is the most nourishing, blood-restoring food that can be used. A tea-cupful may be taken two or three times a-day in typhus, after the fever is subdued; in cholera, or in other diseases attended with exhaustive loss of the animal fluids, or when the stomach requires highly nutritive but not solid food.

4. *Beef, essence of*.—According to Druitt, "take a pound of lean beef, free from fat, skin, and bone; chop it up; put it into a large earthenware jar with cover;

cement the edges with flour paste; tie it up tightly with a cloth; plunge it into a saucepan, and let it boil for two hours; pour off the liquid essence from the coagulated muscle; let it stand till cold; skim off the fat."

5. *Beef-tea*.—Take of good rump-steak half a pound; cut it into thin slices; spread them out in a hollow dish; sprinkle a little salt over them; pour on a pint of boiling water; cover the dish with a plate; place it near the fire for an hour; put the sliced beef and water into a pan; cover it; boil for fifteen minutes; sieve, to separate the beef-tea from the meat.

6. *Beef marrow-bones*.—Cut the bones into short pieces; fill up the holes with a bit of bread or dough; boil them some hours; serve the bones, encircled by a napkin, with dry toast.

7. *Bread panada*.—Make a tolerably thick pulp with grated stale bread, soaked in water; cover up and leave for an hour; add two table-spoonfuls of milk and a little white sugar; mash them up together; boil for ten minutes, constantly stirring.

8. *Whey*.—To each pint of milk add one tea-spoonful of liquid pepsine (Wilson and Co.'s is the best), and place over the fire; as soon as the milk becomes warm, the curds will separate, and the clear whey may be poured off.

9. *Butter-milk whey*.—Pour a quart of boiling water upon a quart of fresh butter-milk; stir; let it stand till cool; then pour off the whey from the curds.

10. *Barley-water*.—Barley is a grain which is extensively grown in this country, and used in the



manufacture of ale, beer, and porter. The *pearl-barley* is made by removing the skin from the grain, and placing it in a mill, which reduces it to shot-like particles of a pearly whiteness. Made into a broth, or, after being well ground, into cakes and loaves, it forms an important staple article of ordinary diet amongst the working-classes.

The barley-water is prepared by pouring boiling water over two ounces of pearl-barley (Robinson's prepared barley is the best) to wash it; then, after it has drained away, pour on another quart of boiling water; boil for ten minutes; strain; flavour with either currant-jelly or orange-juice.

Barley-water is an excellent diluent in diseases of the bladder and urinary organs; and is useful in colds, affections of the chest, and inflammatory complaints.

11. *Cocoa* is decidedly superior to either tea or coffee as an article of diet. It is devoid of the principles existing in the latter two beverages, which act injuriously on the nervous system; it is equally refreshing and invigorating, and much more nutritious.

*Chocolate*.—Chocolate is prepared by submitting the shelled bean of the cocoa to pressure between hot rollers, thus reducing it into a smooth paste, with the addition of saccharine and farinaceous matters, which render it more nutritious and palatable.

The *soup* is made thus:—Take half a pound of chocolate; scrape; boil in a quart of milk; add the yolks of four eggs; beat up the whites, and lay on the surface of the fluid by spoonfuls; sprinkle with sugar; brown with a salamander.

The *cream* is made thus:—Take a quarter of a pound of chocolate; scrape very fine; add a pint of milk; let it simmer gently on the fire; having mixed four ounces of butter with a little milk, and beaten up eight yolks of eggs with a little sugar, add and mix up all well together; beat the whites of the eggs; add them; place in a porcelain dish; when cold, use with preserves.

12. *Grit gruel*.—Take three ounces of grits, which are coarsely broken, huskless oats; wash them well in cold water; pour the water off; put the grits into four pints of fresh water; boil slowly until the quantity of fluid is reduced one-half; strain the whole through a sieve.

13. *Gravy soup*.—Take a piece of beef from the rump; detach the beef from the bones; mince it into small pieces; put some butter into a pan, in which lay the meat and bones; put into an oven to brown, but not to burn; when thoroughly browned add a pint of cold water and some salt; let them stew a quarter of an hour; add sufficient water to make the quantity of soup desired; boil slowly for four or five hours; cool and skim; pass through a sieve. It may be used either alone, or with rice, macaroni, vermicelli, or sago.

14. *Isinglass jelly*.—Take one ounce of fine isinglass; add half a pint of boiling water; simmer until it is dissolved; strain through a fine sieve, and let it cool.

Isinglass is dry, inodorous, tasteless, and semi-transparent; the best varieties are those that are the thinnest, the driest, and the most transparent. It is nutritive, and mollifies irritation. The purest isinglass

is prepared from the air-bladders of the sturgeon, or other fish of the same kind, belonging to the rivers of Russia. It is well suited to deranged stomachs in children, and when ordinary foods are rejected during pregnancy.

15. *Homœopathic invalid cakes*.—Take a tea-cupful of the finest flour, mix with it some good cream, to the consistency of a rather stiff paste, roll it as thin as a wafer, and make into cakes about six inches diameter, prick them well on both sides, and bake on the bottom of the oven, not on a tin. This is a good, wholesome, and nutritious biscuit.

16. *Linseed tea*.—From one ounce of the seeds of the common flax plant, allowed to stand for two or three hours in a pint of boiling water, may be procured, after straining through a calico or linen cloth, a drink which soothes the irritation existing in cough, and in many diseases of the kidneys and bladder.

17. *Macaroni pudding*.—Soak some macaroni in a pint of milk; put both into a deep dish; sprinkle white ground sugar over the surface; add three eggs well beaten up; bake slowly in an oven. Macaroni exists in commerce as pipe-shaped pieces, composed of fine wheaten flour.

18. *Rice*.—The rice plant is cultivated over a considerable portion of the globe in warm latitudes, and is to the Chinese, Hindoos, Malays, and the inhabitants generally of the East Indies, what the potato is to the Irish. It is highly esteemed by Europeans, when made into puddings, etc., and is an excellent article of food for the invalid.

The *mucilage of rice* is prepared thus:—Take an ounce of rice (Carolina is the best), wash it to remove impurities; steep for two or three hours in a quart of lukewarm water; boil slowly for an hour; strain. In diarrhoea, dysentery, and other diseases of the bowels, attended with much irritation, it soothes and shields the tender parts.

The *rice milk* is made thus:—Mix a table-spoonful of ground rice with a pint and a half of new milk; add small pieces of candied lemon-peel; boil for half an hour; strain.

19. *Mashed carrots and turnips*.—Peel the turnips and scrape the carrots; boil them in separate utensils, in three different waters; squeeze the water out thoroughly through a coarse cloth; mash them up together, with the addition of some new milk; add salt; place before the fire to dry the surface.

20. *Oatmeal*.—The *porridge* is made thus:—Have a pot of water boiling on the fire; scatter the oatmeal in small quantities, at short intervals, upon it, stirring constantly; when a tolerably thick mixture is made, continue to boil for half an hour at least. Oatmeal porridge is a nourishing article of food.

The *gruel* is prepared according to the following directions:—Take a large table-spoonful of oatmeal; put it into a basin half full of water; rub well together; then let the meal sink to the bottom; pour off the superincumbent milky fluid; repeat this with fresh water twice, unite the washing, and boil together until a soft thick mucilage is formed; strain through a sieve; sweeten according to taste.

21. *Sago*.—Sago is the medullary matter within the trunk or stem of several trees of the palm species, which cover immense tracts of land in the East Indies. When the flowers are about to bud, the trees are cut down, the pith extracted and reduced to powder. This is then moistened with water and rubbed into small grains, the most valued kind having a pearly lustre; hence the name *pearl-sago*. Sago contains a large portion of starch, and forms a somewhat nutritive light food for invalids.

The *mucilage* is made by soaking the sago in cold water for an hour; pouring off the liquor; adding fresh water, and allowing it to simmer until it becomes transparent; and flavouring with orange-juice or currant-jelly.

22. *Tapioca*.—Tapioca is prepared from the root of a plant native to South America. The root contains a nutritive principle, and a poison so deadly as to destroy life in a few minutes. The poison exists in the juice, and is extracted by grating, washing, and squeezing the roots through a press; whilst the edible portion deposits in the form of a fine powder, which is afterwards dried and formed into grains to constitute the tapioca of commerce.

The *mucilage* is prepared as directed for sago.

23. *Toast-water* is an exceedingly agreeable drink in allaying thirst in feverish diseases. It is made thus:—Slowly and thoroughly toast hard ship-biscuit or stale bread; pour on some water that has been boiled and cooled; let them stand together for an hour, and then decant the fluid from the bread.

24. *Water*.—This natural beverage is the best adapted to the patient's requirements. The "cooling" sensation which follows a draught of cold water, when the patient has a hot and dry skin, is exceedingly pleasant, acceptable, and salutary. All water ought to be filtered before drinking.

23. *Tea, coffee, brandy, wine, ale, porter, beer, soda-water, lemonade*, and other similar drinks, must, generally speaking, be abstained from, unless the medical attendant enjoin their use.

IV. BANDAGES AND BANDAGING.—*Bandages*.—They consist of strips of linen, flannel, unbleached calico, India-rubber, or indeed of any fabric that can be split up and joined together end to end, in lengths varying from one to several yards, and in breadth from one to six or seven inches, according to the part requiring them and the use to which they are put.

Bandages are used to keep dressings on wounds ; to restrain bleeding ; to retain dislocated and fractured parts in apposition ; to support distended veins and dropsical swellings ; to disperse accumulations of fluid around joints or in the extremities ; and to uphold the abdomen during or after pregnancy.

The bandages most frequently used are the following:—

1. *The Roller*.—Take a piece of calico, of the required length and width, and commencing at one end, roll it evenly, as represented in the next engraving. In applying it, begin at the hand or the foot, drawing rather tightly at first, but relaxing it gradually the higher you reach ; do not make

it painfully tight, or tighter at one place than another; as you turn it round the limb, change it from one hand to the other; unfold only a little at once; each fold should be overlapped by the one above it, about one-third of its width; as the limb increases in thickness, the roller has to be doubled back upon itself at each turn, as shown in the engravings.

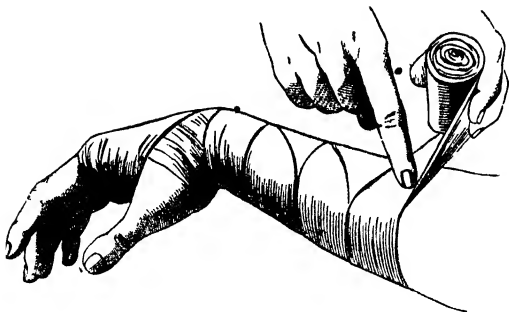
(1.) *Roller for the Hand.*

—Pass the roller, which should be about two inches broad, round the hand and the wrist like the figure of 8, the thumb being, of course, left out, and turn it two or three times round the wrist, as shown in the engraving.

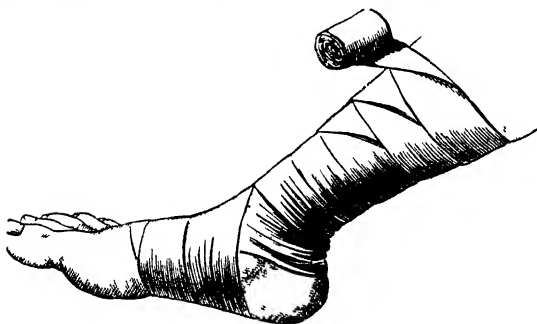


(2.) *For the Lower Arm.*—Carry the last bandage

higher up the limb, and twist it back upon itself at each turn.



(3.) *For the Foot*—Begin on the foot just behind the clefts of the toes, carry it over the instep, round the ankle, and back again to encircle the foot, the heel being excluded, as in the following cut.

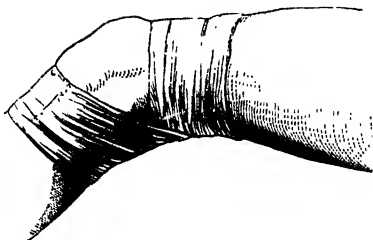


(4.) *For the Leg*.—Carry the last bandage higher up the leg, turning it upon itself as the limb becomes thicker, that it may press equally.

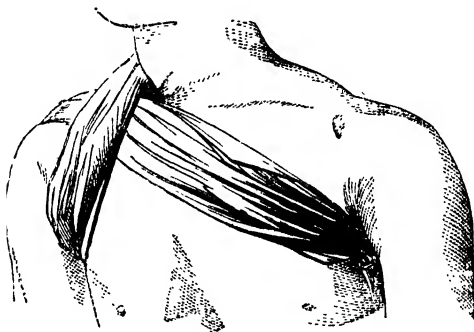
(5.) *For the Knee*.—Pass the roller round the joint



like the figure of 8, leaving the kneepan out, as depicted below.



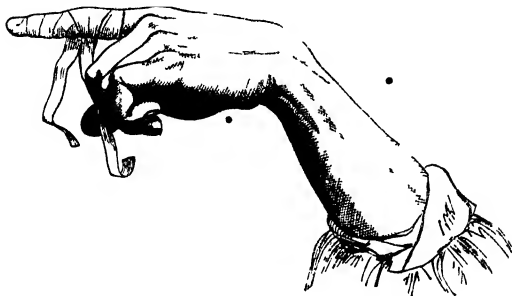
2. *Bandage for the Armpit*.—Poultices or dressings may be retained to the armpit by applying the middle of a handkerchief, with folded corners; then bring each half over the top of the shoulder, one end



crossing the front and the other end the back of the chest, to be tied together under the other armpit.

3. *Finger Bandage*.—Roll a narrow strip of calico round the finger, tear up the free end into tails of

equal breadth, turn them in opposite directions, and tie in the manner depicted below.



4. *Arm Sling*.—Fold a common handkerchief cornerwise, spread out its middle broad [portion to reach



from elbow to wrist, carry one end across the front of the chest and over the opposite shoulder, and tie both

together over the other, as the preceding cut shows how.

5. *Head Bandage*.—In order to keep dressings, etc., on the head, apply the four-tailed bandage, which is made by splitting up a piece of linen four and a half feet long, and eight inches wide, down the middle, at each end, leaving the middle portion whole; this part is then to be put on the head, the two front tails being carried backwards round the back of the head, and round the neck, where they may be tied in front, and the other two being brought directly downwards, and knotted under the chin, as shown in the cut.



## CHAPTER IV.

### ON THE DOMESTIC MANAGEMENT OF DISEASE, AND OF ACCIDENTS.

THE BEST MODES OF GOVERNING THE INSANE, THE HYPOCHONDRIACAL, AND THE HYSTERICAL—THE TREATMENT IMMEDIATELY DEMANDED IN SUDDEN SEIZURES OF ILLNESS—THE HOME MANAGEMENT OF NUMEROUS CASUALTIES, ETC. ETC.

I. INSANITY.—This term is employed to denote derangement of the intellect, or, as it is otherwise called, unsoundness of mind. There are many varieties of insanity, which it would serve no useful purpose to enumerate here. The manifestations of mental aberration seldom appear before the fourteenth year; after this period, the liability increases up to the fortieth. It is a hereditary malady; one that can be transmitted from parent to offspring; from ancestor to descendant. In some cases there is a natural tendency to become affected. Insanity is brought on by derangement of the uterine organs; drunkenness; irritation in the bowels; diseases of, and injuries inflicted upon, the brain, etc. Deposed intellect is a pitiable spectacle, and no efforts should be spared to effect its restoration. When, therefore, the patient can be sent to an asylum, the relatives

should make every endeavour to keep him there until a cure is wrought. He can there receive skilful and experienced treatment adapted to the peculiarity of his case; his attention is attracted to new objects that have no connection with the subject of his illusions; old associations are broken up, and new thoughts begin to be awakened. But when the means of the lunatic's friends are so limited that they cannot afford to maintain him in an asylum, and are compelled to keep him at home, they will do well to act in conformity with the following suggestions:—

1. Never leave the lunatic by himself for ever so short a time, especially if he have shown any tendency to commit violence or suicide.
2. Gentle early walking, besides the adoption of every means which can preserve his general health, will exercise a beneficial influence on his mind.
3. A stranger should be his constant attendant; friends and relatives should see him as seldom as possible.
4. Never ridicule, or oppose, or contradict any of his assertions, or attempt to convince him of his mistakes; if you do, you will most probably irritate his temper, and confirm, perhaps aggravate, his derangement.
5. Avoid all reference to the subject of his illusions, but, on the contrary, try to interest him on some opposite topic.
6. Endeavour to amuse or to instruct him according to his taste, capacity, and inclination.
7. Employ him in some simple and customary manual occupation.
8. By every available resource, divert his attention from his delusive meditations.

II. HYPOCHONDRIA.—This is a disease characterized by symptoms of deranged stomach, combined with depression of spirits, apprehension of coming evil, great dread of death, and mistaken notions of one's opinions and remarks. •

The treatment consists in the administration of such medicines as will cure or relieve the stomach complaint; but the greatest dependance must be placed on change of air, scene, society, and occupation, so as to withdraw the attention of the invalid from his own affairs to some more pleasing or engrossing object of contemplation. Light reading, conversation, amusement, and slight employment in the garden, are of service. The friends or attendant of the invalid should be obliging, kind, and not disposed to ridicule his disagreeable grumblings. He should sleep on a hair mattress; never lie in bed after waking in the morning; daily wash himself all over immediately after rising from bed, succeeded by friction with a rough towel, or the horse-hair brush, and have regular, moderate, and gentle out-of-door exercise.

III. HYSTERIA.—This affection of the nervous system assumes many different forms, and is characterized by various symptoms, the best known being the assemblage of phenomena named the *hysterical fit*. This disease, in its pure form, is peculiar to the female, and is connected, in a way not easily explained, with the periodical changes of the female organization. Wayward, irritable women are most prone to hysteria; also, those who lack self-government, who are pam-

pered with luxurious living, and whose education has appealed more to the feelings than to the intellect. Strong passions and mental emotions, such as anger, grief, anxiety of mind, etc., predispose to its occurrence. When the female is in delicate health, or afflicted with any debilitating complaint, the proclivity to be seized is augmented. It is apt to be induced, in susceptible constitutions, by the representation on the stage of violent mental emotions; and also by witnessing its paroxysms in another female. It is a fertile cause of much domestic unhappiness, alienates the affections of friendship, and not unfrequently terminates in melancholy, epilepsy, and deranged mind.

The treatment of the fit is the following:—Place a folded napkin, or a piece of cork between the teeth, to prevent the tongue being bitten; see that the head, or any other part of the body, is not injured; remove the collar, neckerchief, ribbon, or other article of attire or of ornament which usually adorns the neck of females; loosen tight stays and all other impediments to the breathing, and never allow the patient to be pinched up in them again; dash or sprinkle a little cold water upon the face and the chest; speak to the patient in a loud and authoritative voice, etc, etc.

The treatment after the fit concerns attention to the general health. If the hysteria can, as is frequently the case, be ascribed to some bodily disease, a medical man had better be consulted as to the most appropriate medical treatment. When the patient is inclined to be stout, a vegetable must be substituted

for the animal diet ; but, if there be both weakness and excitement, generous food is demanded. Amongst the other auxiliary restorative means may be enumerated—daily walking exercise in the mornings in the open air ; cold affusion, or the cold or the tepid shower-bath ; change of air and of scene ; cheerful society ; the avoidance of all mental excitements, arising from jealousy, grief, anxiety, etc. ; the substitution of hair mattresses for soft and luxurious beds ; abstinence from the customs of folly made fashionable by those in place, power, and wealth ; moral culture ; engaging in religious exercises and observances ; and in deeds of active benevolence, etc.

IV. FAINTING.—Fainting is produced by violent mental emotions, such as sudden joy, great grief, etc. ; by loss of blood, in which case fainting is a natural effort to stem the flow of the life-fluid ; by severe pains, some poisons, odours, etc.

The treatment varies, of course, with the cause. None but a medical man is competent to interfere in the faintings induced by bleeding and by disease of the heart ; but in the purely nervous form, where the swoon does not persist for more than a few minutes, and is unattended with danger, his attendance may be dispensed with. In such cases, then, place the patient on his back on the floor ; admit plenty of fresh air by opening the windows and the door ; loosen all tight clothes, especially from the neck ; sprinkle cold water on the face and the hands ; cautiously irritate the nostrils with the fumes of hartshorn, and speak loudly close to the ear. A little wine or brandy



attention, then, to the oft-repeated advice—smother the flames by sitting down when the skirt of the gown takes fire; lie on the floor, and roll<sup>c</sup> yourself over repeatedly until the flames are extinguished; roll around the person in flames either a rug, a carpet, a table-cloth, a cloak, or a blanket, anything, in short, that can keep out air, which is essential to burning. *Do not fan the flames into increased vigour by running about the room, and, least of all, into the open air, but drop down on the floor at once, and, as before stated, roll yourself over and over again and thus smother it out.*

VIII. HOUSE ON FIRE.—Life is often destroyed or placed in jeopardy by this accident. If you cannot make your escape by the street door owing to the stair being burned down, or by the roof of the house, you must attempt the descent from the lowest and safest front window. Do not let all your senses leave you and throw yourself out on the hard pavement, for you will run the risk of being smashed without receiving any countervailing recompense. Instead of doing that, throw the bed and mattress out, and then, if you have to follow them, they will break your fall; or you may, in their absence, throw yourself into an out-stretched blanket or sheet, held firmly at the corners by four or six individuals. A wiser and safer plan, where it is available, is for you to knot firmly and very securely together the ends of several sheets or blankets; then fasten one end of this long rope to a bed-post, or to some other substantial fixture; and, having gathered together all the inmates of the house, you will see

them safely down before you attempt to lower yourself. In collecting the members of your household together on so trying an occasion, you may have to pass through dense smoke before reaching the rooms in which they are perhaps asleep. In doing this, crawl along the ground on hands and feet, having previously divested yourself of any loose cotton garment and wrapped yourself up in any tight woollen ones, the latter being less combustible; also put a damped towel, silk handkerchief, stocking, or flannel, more or less over your face and head, in order to protect you from the flames and to enable you to breathe by excluding smoke. In going from one room into another, never forget to close the doors after you, and enter as few of the apartments as you can help. This is more especially needful when you have assembled your family together in one of the front rooms, which will be comparatively free from smoke if the door be kept closed.

IX. CUTS OR WOUNDS.—“Treatment:—1. *Stop the bleeding* by applying ice or cold water; exposing the injured place to cold air; compressing the bleeding part with the finger; or by laying upon it a pad of lint soaked in arnica lotion, and retained, if necessary, in its position by a bandage. Should these measures fail to arrest the flow of blood, send for a medical man, as it is possible a blood-vessel may be wounded, and will require tying. (See “Profuse Bleeding,” *next page*.)

“2. *Remove all dirt, gravel, splinters, clots of blood,* and such other bodies, by means either of the finger

and the thumb, by using a sponge and water, or by simply pouring cold water on the cut.

“3. *Bring the sides of the wound together, and keep them so* by strips of arnica plaster, leaving spaces between each slip to let the matter escape. Stitches are indispensable in wounds to which plasters are inadequate, and in injuries to certain parts of the body where it is of consequence to prevent disfigurement.

“4. *Guard against inflammation* in the injured part, and *keep down the fever* that is prone to attend severe cuts, by sending the patient to bed, keeping the hurt place in perfect rest, feeding on a low diet, and by removing all bandages and strips of plaster, and using poultices instead, if pain and swelling supervene. If there be much pain, restlessness, sleeplessness, hot skin, etc., give three globules of *Aconitum* every four hours until relieved; if no such symptoms are present, give the same dose of *Arnica* until the cut is healed up. *Calendula lotion* must be used when the wound is slowly healing from the bottom, and is attended by much discharge of matter.”\*

X. PROFUSE BLEEDING.—When an artery is wounded, the blood is bright red in colour, and discharged in jerks, corresponding to the beating of the pulse. Unless some immediate steps be taken to stanch the flow of blood, the patient may die. You may effect this in two ways: first, by pressure; compress firmly and constantly with your finger or

\* Moore's "Popular Guide to Homœopathy," page 120.

thumb if the wound be a small one, and situated over bone which will not yield to the force you apply; or you may place your finger directly over the place whence the blood wells. But where the wound is large, involving a leg or an arm, and the bleeding profuse, you may tie a handkerchief round the limb, about an inch and a half above the wound; place a stick underneath, and twist.

Sometimes dark blood issues in a slow and continuous stream from enlarged (varicose) and distended veins in the leg, especially if there be an ulcer over the current. Pressure on the gory place will generally stem the venous tide.

XI. STRAINS AND SPRAINS.—Unless in the severe forms of these casualties, a medical man is scarcely needed. The treatment consists in giving the limb perfect repose, in raising it on a pillow above the level of the body, in fomenting it until pain is relieved and swelling reduced, in afterwards using *Arnica lotion* as already directed, and in substituting *Rhus liniment*, which, with the aid of the friction used in applying it, will reduce any remaining enlargement, and give tone and strength to the maimed part. Lastly, careful bandaging is serviceable.

XII. BRUISES OR CONTUSIONS, inflicted by a blunt instrument, vary in degree, and, if severe, invariably require medical attention. In the slighter cases, such as a black eye, the application of *Tincture of arnica* is very efficacious. If the limbs be bruised, they must enjoy complete rest.

XIII. SUSPENDED ANIMATION, OR APPARENT

**DEATH.**—Under this head we shall have occasion to describe several common forms of accidents which endanger life.

By suspended animation we mean that condition of the body in which the phenomena of life are more or less suspended, or arrested, by some interference with the process of breathing. The hindrance being overcome, respiration is resumed, and the other manifestations of life return. This state arises from drowning, hanging, lightning, and other causes, which deserve separate mention.

1. *Drowning.*—The human body is frequently submerged in water by accident, as during bathing, when a person is seized with cramp, or incautiously ventures into streams of unknown depth. A bather must be told that the bottom of a stream is really lower than it appears to be, so that he must make some allowance ere he heedlessly plunge in out of his depth. Water is also a common means of committing suicide or murder, and many lose their lives in consequence of shipwrecks. Human life, then, is frequently imperiled by being placed in deep water. Every individual ought to be able to swim, for this ability may be instrumental in saving his own or a fellow-creature's life; but when life is endangered under such circumstances, and the person cannot swim, the slightest presence of mind in carrying out the following suggestions will enable him to keep his head above water for a considerable time, until assistance arrives. Every one does not possess the power of retaining self-possession in seasons of danger and of emergency; but

the recollection of the preservative means that ought to be adopted will contribute to a calm and collected deportment in times of jeopardy, when, on the other hand, the ignorant person would be lost in alarm and excitement. Remember, therefore, that if you are in deep water and unable to swim, you will buoy yourself up by keeping your head still, and thrown slightly backwards; on no account whatever throw your arms out of the water, for if you do your body will sink; do not flounder about, but endeavour to control yourself by a determined effort of your will, and keep yourself as quiet and still as possible. By the observance of these simple rules, you will not exhaust your strength by useless and perilous struggling, and your mouth and nostrils will be held above the water's surface sufficiently high to enable you to breathe.

But if the individual is not drowning, but drowned, act upon the following advice:—Send for a medical man instantly; do not lose time; do not be flurried; do not use the body roughly by rolling it about, or by hanging it up with the heels aloft; do not rub it with salt; do not inject tobacco into it, but quickly remove the body to the nearest house, the head and shoulders being raised. The room must be well ventilated, and free from smoke; exclude all curious, useless, impeding intruders; and let each person be attentive to his or to her allotted duties. You must have two objects in view—restore warmth and resume the breathing. To restore warmth, remove wet clothes; rub the body dry; place it in bed betwixt warm blankets, the head and shoulders being rather higher

than the trunk; lay hot bricks, or bottles filled with hot water, in the armpits, between the thighs, against the feet, and on the pit of the stomach; use friction with the hand; or, if convenient, immerse the body in a bath of water no hotter than your hand can tolerate. Heat must be cautiously and gradually applied, otherwise it will do more harm than good.

To resume the breathing, you must inflate the lungs with air in the following way:—Wipe away all the frothy mucus which bubbles from the nose and mouth, and which fills the throat; then let one person introduce the pipe of a common bellows into one nostril, the other one and the mouth being shut up; then let him gradually and gently blow the bellows, and fill the lungs with air. An assistant is, at the same time, standing on the other side of the body, pressing with one hand the prominence on the throat called Adam's apple, in a direction downwards and backwards, in order to facilitate the current of air towards the windpipe, and to prevent its passage down the gullet into the stomach. With the left hand he gently presses down the chest after it has heaved with the bellows' air, the nostrils and mouth being of course opened. This operation, and all the other means of resuscitation, are to be persevered with for several hours, until either life returns and the breathing is performed naturally, or until no signs of reanimation appear. When sighing, gasping, beating of the heart, etc., announce returning life, continue your exertions with greater vigour and good-will to relume the waning vital spark.

Dr. Marshall Hall has recently made public a new and much more successful method of reanimation, applicable especially to cases of drowning or of apparent death arising from other causes, though requiring the same treatment. We shall not employ, precisely his language, the intention being to divest the subject of technical phraseology. His rules are as follows:—

(1.) Treat the patient instantly on the spot, in the open air, freely exposing the neck, face, and chest to the breeze, except in severe weather.

(2.) Send with all speed for medical aid, and for articles of clothing, blankets, etc.

(3.) Place the patient gently on the face, with one wrist under the forehead.

(4.) Turn the patient slightly on his side, and either apply snuff or other irritant to the nostrils, or dash cold water on the face, previously rubbed briskly until it is warm. If there be no success, lose no time; but—

(5.) Replace the patient on his face.

(6.) Turn the body gently, but completely, *on the side, and a little beyond*, and then on the face, repeating these measures time about, deliberately, efficiently, and perseveringly, fifteen times only in a minute.

(7.) When the body is lying with the face downward, make strong pressure *along the spine*, removing it immediately before turning the body on the side.

(8.) Rub the limbs upwards with firm pressure and energy, using handkerchiefs, etc.

(9.) Replace the patient's wet clothing by such other covering as can be instantly procured, each bystander supplying a coat or a waistcoat.



(10.) From time to time, slap briskly the surface of the body with the hand.

(11.) And dash cold water on the surface, dried and warmed by previous rubbing.

2. *Hunger*.—Sheer want produces a condition of weakness and exhaustion, which not seldom simulates death, or is its immediate harbinger. Newspapers report the too often discovery of a body, fleshless and stark dead from dire destitution. Involuntary abstinence from food, in consequence of poverty, shipwrecks, burying alive amongst the ruins of a fallen house, and such other cases, requires very careful and judicious management.

The body should be gently and quickly conveyed to the nearest dwelling; placed, and allowed to remain in the hot-bath, in a reclining or a sitting posture, for fifteen or twenty minutes; taken out and briskly rubbed down and dried, using friction, with a tolerably rough towel; and be laid in bed between warm blankets, with a hot brick, or a bottle full of hot water, to the feet, and, if necessary, the salt-bag or stomach-warmer put over the upper part of the belly. Administer one or two tea-spoonfuls of warm milk or of beef-tea, but be very wary in not giving large quantities. About eight table-spoonfuls of the same fluids may be given by injection. A little wine diluted with water may also be serviceable. Endeavour to procure sleep; and do not arouse him from his slumbers. The room must be kept dark, well ventilated, and noiseless. After the patient is refreshed by sleeping, he might venture to take a little solid meat, and for

several days must rather eat sparingly and frequently, than in large quantities and at long intervals. Attention to the general health, especially in reference to clothing, is essential to permanent recovery from the effects of abstinence.

3. *Poisonous Gases.*—The two gases most destructive to life are carbonic acid and sulphuretted hydrogen.

Carbonic acid is derived from various sources. A considerable quantity is given off from the bodies of all animals, by the lungs and skin; hence, if a man be confined in a close and ill-ventilated apartment for a considerable time, he will inevitably perish, furnishing the weapon of his own destruction; it is a product of combustion, hence the frequency of death, in consequence of burning wood or charcoal, in a pent-up room from which air is excluded; it is also evolved during the burning of limestone, and not seldom suffocates the poor houseless wanderer who crouches to the lime-kiln side to warm his chilly limbs; it is emitted during fermentation, and accumulates in brewers' vats, malt houses, etc.; it is the "choke-damp," resulting from animal and vegetable decomposition, which collects in vaults, wells, coal-pits, etc.; it is the suffocating gas, left after the explosion of the "fire-damp" in mines, which destroys life as surely as the first blast.

Pure carbonic acid gas destroys life instantaneously; indeed, ten per cent. is sufficient. When diluted with air and breathed, the blood absorbs it, becomes vitiated, and is robbed of its stimulating pro-

perty. The symptoms, then, are, in order—weakness, giddiness, flushed countenance, insensibility, noisy, snoring breathing, livid face and neck, foaming at the mouth, etc.

It is a heavy gas, and can be removed by displacement, by pouring it from one vessel into another. It would, for this reason, cover the earth's surface to a considerable depth, were it not rarefied and made lighter by the heat which attends its liberation from the sources already enumerated. Besides this, currents mix it with the atmosphere, where it remains suspended by virtue of the chemical law of gaseous diffusion. In wells and other confined places it sinks to the bottom in a concentrated form, because out of the reach of atmospherical currents. The density of the gas may be turned to practical and to salutary advantage, when it is desired to displace it from brewers' vats or wells. In the former case, pierce a hole in the bottom of the vat, and the gas will run away; in the latter, it can be lifted out like water with a bucket. No person should heedlessly enter a well or other place suspected to contain this exceedingly destructive gas, without having previously introduced a lighted candle. If the candle continues burning, the air can be breathed without danger, but if extinguished, the air will surely put out the vital flame, owing to admixture with carbonic acid. Many sad accidents happen from descending into wells filled with this gas; the pioneer is soon overpowered, and so will the rescuer, unless he quickly throws down some lime mixed with water, or places over his mouth and

nose a damped handkerchief, or other cloth containing in its folds a quantity of slaked lime, which will effectually prevent the gas going into his lungs.

The other gas, viz., sulphuretted hydrogen, exists in drains and sewers, and is highly injurious.

A medical man should be sent for without delay; meanwhile, place the body in a warm bath, if it be cold; dash cold water over the face, neck, and chest; resort to artificial respiration as directed for drowning, etc.

4. *Intoxication*.—Intoxication is, as every one knows, the condition induced by over-indulgence in (poisonous) alcoholic drinks, and characterized by unnatural elevation of spirits, stuttering speech, imperfect control over voluntary movements, ending in delirium, insensibility, and stupor.

The stomach may have to be evacuated of its contents by means of the stomach-pump, and therefore, in all cases of apparent death from this cause, a medical man must be procured immediately. In the meanwhile, place the drunkard in bed with his head elevated; undo his collar and neckerchief; loosen all his clothes; put damp cloths on the forehead and the face; apply heat to the feet and pit of the stomach, etc.

5. *Hanging*.—"Treatment.—Get a medical man as quickly as possible; in the meanwhile, lose no time in cutting the suicide down; remove the instrument of death from his neck; expose the throat and chest; dash water on both; place the head and shoulders rather high, and the neck stretched out; rub the legs

and arms; put hot bricks to the feet, armpits, and between the thighs; lastly, resort to artificial breathing, as for drowning."\*

6. *Poisoning*.—Poisons are divided into two great classes, viz., *narcotics* and *irritants*. An intermediate class, called the *acro-narcotics*, induce immediately a series of phenomena due to irritation; subsequently, a narcotic condition appears, and the patient dies. Aconite, Nux vomica, etc., are examples in point.

(1.) *Narcotics*.—The principal are Opium, Conium, Camphor, Alcohol, Belladonna, Tobacco, Prussic acid, Hyoscyamus, and Digitalis. They produce, speaking in general terms, headache, giddiness, loss of voluntary motion, delirium, profound insensibility, stupor, and death; their action being confined to the brain and the spinal cord.

*Treatment*.—If the skin be cold and the patient very insensible, apply warmth, and use vigorous friction. Evacuate the stomach as quickly and as completely as possible. This is best done by the stomach-pump. In its absence, tickle the back of the throat with the finger or with a feather, and endeavour to bring on vomiting by giving draughts of tepid water, provided the power of swallowing remains. After the stomach is voided of its contents, the effects on the system, induced by the absorption of the poison, require attention. Give brandy, diluted with hot water, strong coffee, or ammonia; sprinkle or dash cold water on the face; rouse and move about the

\* Moore's "Popular Guide to Homœopathy," p. 127.

patient; keep him walking up and down; slap the soles of his feet; pinch him, and on no account allow him to sleep for several hours. After all immediate danger is obviated, he may sleep, but for only a short period. Lemon-juice may then be administered, and any remaining derangement of the stomach or the nervous system attended to. In severe cases galvanism is beneficial.

(2.) *Irritants*.—This class includes *pure irritants*—substances which irritate, but do not destroy by chemical agency, the structures involved; and *corrosive irritants*, such as may irritate, and always corrode or eat away, the tissue with which they are in contact.

The ordinary phenomena which follow their administration are—violent vomiting and purging; burning heat in the mouth, throat, gullet, and stomach; headache; intense thirst; anxious face, etc. The period of their manifestation varies according to the solubility and peculiar action of the poisonous substances. Corrosive sublimate, arsenic, oxalic acid, salts of lead, of copper, of antimony, and of barytes; cantharides, sulphuric, hydrochloric, nitric, and the mineral acids, generally; the caustic alkalies, as lime, potash, etc., fall under the primary division of irritants. The treatment of irritant poisoning is based upon general principles, but must be somewhat modified according to the nature of the poison; hence, we shall separately mention the most appropriate management of some poisonous articles included in the irritants.

(1.) *Arsenic*.—Endeavour to bring on vomiting; give white of eggs beaten up; flour mixed with water

and milk ; lime-water or chalk-water ; powdered charcoal, or a mixture of oil and lime-water. The most reputed antidote is the hydrated sesquioxide of iron. After each act of vomiting, administer another quantity of the antidote.

(2.) *Corrosive Sublimate*.—Give white of eggs, beaten up with water, every few minutes, until the rejected matter evidently no longer contains any of the deleterious poison. The albumen of the eggs decomposes the mercury into less injurious compounds. The caseine in milk, and the gluten in flour, act in the same way ; hence flour and milk may be given in the absence of eggs.

(3.) *The Mineral Acids*.—These require carbonate of magnesia, chalk, whiting, lime, old mortar, carbonate of soda, mixed with water ; soap suds ; or the plaster of a room scraped off and diffused through water.

(4.) *Oxalic Acid*.—Chalk or magnesia mixed up with milk ; or carbonate of soda.

(5.) *Caustic Alkalies*, viz., lime, potash, soda, and ammonia, are antidoted by draughts of milk, or of oil, and by weak vinegar.

(6.) *Copper Salts*.—Verdigris frequently accumulates on cooking utensils, and becomes mixed with the food, and thus poisons. The best antidotes are milk, eggs, and sugar.

(7.) *Fish*, such as mussels, are sometimes followed by symptoms of poisoning. Tickle the throat with a feather to excite vomiting, and give charcoal, or sugar and water, strong coffee, etc.

(8.) *Mushrooms*.—Those of the poisonous kind

have their effects on the human body counteracted by inducing vomiting, and by giving weak vinegar.

When it is desirable to excite vomiting on the failure of tickling the throat, etc., the administration of an emetic may be resorted to. The most convenient one is mustard, giving a tea-spoonful of the flour or powder, mixed with warm water, as often as may be necessary.

As it is the duty of every member of society to obey established laws, and to further the ends of justice, it is necessary, when a criminal attempt at poisoning is suspected, to procure immediately the attendance of a medical man, and to resort meanwhile to the temporary expedients before suggested; also to preserve the matters evacuated from the stomach and bowels in some suitable vessel, which should be sealed or locked up, and delivered only to the medical attendant, or, still better, to the police authorities. The same precautions should be observed with all bottles, cups, and other articles, which may be suspected to contain any of the poisonous substance.



## CHAPTER V.

### THE GENERAL MANAGEMENT OF THE PREGNANT STATE, AND THE REARING OF INFANTS.

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ON PREGNANCY—CONDUCT DURING ITS CONTINUANCE, AS TO DRESS, EXERCISE, ETC.—THE TREATMENT OF THE INFANT—WASHING, DRESSING, SUCKLING, FEEDING, SLEEP, ETC.

UPON these subjects much might be written, but we are necessarily restricted in this work to a brief consideration of the more important means which every one can put into practice to render pregnancy free from danger, and to guard against the mischievous and destructive manner of rearing children which is in vogue at the present day.

I. PREGNANCY is the condition of a female who is with child. It is one of the great purposes to which she is destined and adapted by both structure of body and bent of mind. Indeed, it is only as a mother that woman can display to the full the affection, tenderness, and self-sacrificing spirit which endear her so much to those about her. It is therefore a state designed to subserve an essential purpose, and is consequently, like every other process of Nature, unattended with any inconveniences or dangers that may not be provided against. The various temporary

deviations from health, which are inseparable from pregnancy, are quite as amenable to medical and to hygienic observances as any other trifling disorder occurring under other circumstances. It must be satisfactory to the young wife to know, that married and fruitful women enjoy better health and greater exemption from the attacks of disease than others who are not so circumstanced; and that the diseases which do attack them are much less fatal than those of the other sex—a fact which accounts for their greater longevity, and the preponderance of females amongst the population.

She may, therefore, dismiss from her mind all apprehensions of danger and of suffering from maternal or conjugal duties. It behoves her, however, to be watchful of her health, for that is the only conditional stipulation that can secure the natural performance of those changes which are incidental to pregnancy.

We have now briefly to notice the manner in which pregnancy ought to be conducted in order to ensure the prevention of any untoward result. In the majority of cases there is little suffering or annoyance, and the female is able to perform her domestic engagements until labour begins. Others suffer much from sympathetic disorders, and are compelled to resort to medicinal assistance for relief. Others, again, display peculiar and anomalous conditions of mind, and caprices of taste and of temper, which demand gentle and discriminate management by the medical adviser, husband, and friends.

When the female suffers much from sickness,

vomiting, constipation, toothache, or other disorders, she must either seek the advice of her medical attendant, or, if they be slight, consult some domestic homœopathic work. It is beyond the intention of this volume to touch upon such matters; we must rather confine ourselves to the diet, exercise, dress, and general conduct of the pregnant person.

These subjects ought to command special attention on the part of every woman with child. She ought not to recklessly disregard maternal instincts, which will teach her to consult her child's present and ultimate interests, rather than the satisfaction of her own cravings or the continuation of customs to which she has become inured. The rewards bestowed upon those who pay strict regard to hygienic laws are a natural labour, free from dangers and complications; unimpaired health, and hence ability to rear the child, who is generally strong and vigorous, not stunted, deformed, or sickly.

The *diet* should be simple and easy of digestion; small portions should be taken at once, and rather oftener than usual; the food should be thoroughly masticated, and fluids be drunk sparingly, in order not to weaken the dissolving properties of the gastric juice. It is a mistake to suppose that women require more nourishment in pregnancy than at other times; and hence they must, as a general rule, adhere rather to the teachings of their appetite, if it be natural, than take a considerable quantity of rich food in the belief that it will contribute to the child's nourishment. Seasoned foods and stimulating drinks must be ab-

stained from—whisky, rum, gin, porter, ale, strong tea, and coffee are decidedly injurious. Plainly cooked animal food, well boiled vegetables, the commoner kinds of fish, and such aliments as rice, sago, and arrow-root, will, if taken in moderate quantity, rarely disagree with or be rejected by the stomach. Pie-crusts, smoked hams, salted meats generally, and rich sauces must be eschewed. In short, only such articles must be taken as can be easily and painlessly transformed into those nutritive principles which will conduce to the growth and development of her young. On the other hand, the evils of stinting are as great as those of satiating the appetite; and hence the children of the lower and the impoverished classes display great physical deterioration in consequence of the inability of their mothers to satisfy the requirements of the constitution.

The *dress* should be loose, and in material and quantity commensurate with comfort and atmospheric vicissitudes. Tight-lacing and all other modes of restraint must be abandoned, else the worst results will inevitably ensue. Stays should never be worn, for the simple reason that they are not required. The beautiful form of woman was never intended to be misshapen, crimped, and disfigured by needless and artificial contrivances, or to be sacrificed to the customs which ignorance and prejudice have rendered popular and fashionable. Pliancy of movement and gracefulness of deportment—Nature's gifts to every well-formed person—will not be inherited if the most important part of the body be tightly enveloped by an

inelastic and resistant apparatus. The penalty exacted by this gross and condemnable transgression of all the principles of anatomy, of physiology, of hygiene, and of common sense, is a premature grave, or, at best, protracted, severe, and life-long suffering and misery. To all women we say, strenuously discourage and warmly oppose the continuation of this pernicious and suicidal custom.

The arguments adducible against tight-lacing acquire double force in reference to pregnant women. In this condition, it is necessary that the abdomen should be free to enlarge in proportion to the child's growth. Can this be secured if stays be worn? Those who value the precepts of fashion more than those of health, give birth to delicate and puny children, and are afflicted with various diseases from which others are exempt; nor can this be wondered at, seeing that tight-lacing is productive of so much serious mischief. Palpitation of the heart, indigestion, disease of the liver, and costiveness; difficulty of breathing, spitting of blood, and persistent coughs; enlarged veins in the legs, swelling of the lower limbs, disorders of the womb, and numerous other affections, immediately dangerous or remotely injurious, originate from tight-lacing; and, finally, if the child be born alive and moulded aright, and the mother escape her own created perils, it may be questionable whether the compressed breasts and nipples can afford the requisite aliment.

It is not our business to speak of the grievous moral sin committed by that woman who, heedless of the dictates of necessity and of common sense, chooses

to continue a votary—perhaps to become a victim—of fashionable follies, in preference to conserving her health and life for the sake of those with whose interests her own happiness and delight are so largely and wholly identified.

*Exercise* is a most important contributive aid in retaining good health during gestation, and in securing a natural delivery. Gentle walking exercise in the forenoon, not carried to fatigue, is the best; sailing and moderate passive exercise in an open carriage are also useful. Riding on horseback, or in springless carts, traversing rough roads, jumping, dancing, running, lifting weights, and all manner of violent motion, must be carefully avoided.

Our further advice to the pregnant female is this :—Do not frequent balls, theatres, public meetings, or spectacles; retire early to bed, and sleep eight hours on a hair mattress, in a large well-ventilated room; avoid, if possible, all violent mental emotions, as grief, despondency, anger, etc.; use the cold or tepid bath daily; keep your mind tranquil and composed, and let not any of the stories of your forward and tattling visitors alarm you as to the issue of your own case, remembering that labour is not necessarily accompanied by great suffering or imminent danger. The husband, when told that his wife may sometimes be irritable in temper and wayward in disposition, will know how necessary it is to practice forbearance and kindness towards her whom he professes “to love and to cherish in sickness and in health.”

II. INFANCY.—We have now to point out a few of

the leading particulars as to the domestic management and physical training of the infant, which exercise paramount power in preserving its health, in protecting its sensitive frame from outward influences, and in adapting its feeble organization to the circumstances amidst which it is shortly to lead an independent life.

The apartment in which the child is born should be thoroughly ventilated, and, if necessary, moderately warmed. It should not be exposed, on the one hand, to draughts of air coming through loose windows, crevices, or other apertures; nor, on the other hand, to the excessive heat which radiates from a large and blazing fire. The former would endanger the child's life, by depriving it of the little animal heat with which it is endowed; and the latter would relax, enervate, and debilitate.

The baby then is born, and cries, as they all do; which crying fills the lungs with air, and changes the course of the blood. It must be handed to the nurse, who will receive it in soft flannel, and begin to apply the first ablution, in order to remove the peculiar oily matter with which its body is smeared. Wash the face first with warm water, a soft sponge, and, if necessary, a little soap, taking special care not to allow any of the impure water to fall into the child's eyes. Unless this be done, severe inflammation in the eyes, attended with matter, may arise, and blindness may follow. Continue the cleansing over the whole surface, avoid all rough handling, and perform the rubbing and subsequent drying in the gentlest manner possible, that the tender skin may not be chafed and irritated. If, notwith-

standing your precautions, such is the case, sprinkle some flour or starch over the sore surface. The body must then be encircled by a flannel bandage five or six inches broad, and so long that it may go twice round, for the threefold purpose of protecting the navel-string (which the medical attendant is presumed to have attended to); of preventing protrusion of the bowels at the navel when the child coughs, cries, or exerts itself; and of supplying warmth. The bandage must not be applied too tightly, otherwise respiration will be retarded, and numerous other ill consequences will ensue. If the child appears exhausted with the fatigue entailed by the dressing, it had better be swathed in a shawl and blanket, and allowed to sleep; but, if it is strong and hearty, the dressing may be finished before it is permitted to slumber. Whilst the mother is reposing, in order to calm the perturbation and to overcome the exhaustion of travail, and the child is lying "in slumbering beauty," our remarks regarding clothing will be proceeded with.

Setting aside fashion as a point of subordinate consequence in the choice and adaptation of the apparel, it is essential to study rather the comfort and necessities of the child than mere outward ornament or elegance. All the clothes should be *loose*, to admit of their being easily and quickly put on and removed, to prevent any constriction of important parts, and to allow of the free play of muscles and the flow of blood. They should be *warm*, and in material compatible with the due maintenance and regulation of the child's heat.



Hence, when the child is prematurely born in spring or in winter, and is naturally delicate, flannel clothing from head to foot will alone insure the requisite heat consistent with a continuance of life. The use of *pins* must be abandoned; they often cause the child much unnecessary pain, and fret its temper. The mother's ingenuity will supply a substitute for them. Long clothes are advantageous in protecting the legs and feet from cold, and the feet should be placed in worsted footikins during inclement weather. The neck, shoulders, arms, and upper part of the chest should be properly shielded from cold. The reprehensible practice of doing just the reverse has had no insignificant share in conducing to the high mortality of infantile diseases. The dress should, therefore, be so made as to effectually guard the child from cold. On the other hand, excess of warmth, from too much clothing, has its evils, and must be provided against by suiting the material, quantity, and shape of the attire to the child's wants, in accordance with the dictates of sound sense and of propriety. It is imperative that fresh clothes be thoroughly aired and well warmed.

Caps heat the head, encourage affections of the brain, and develop diseases involving the skin of the scalp; hence, they should be worn only in very cold weather and out-of-doors.

Both being now rested, the infant should be laid by the mother's side, that its heat may be maintained and that it may obey the instinct which prompts it to seek food. The mother's milk is, during the first few

days, thin, watery, and possessed of purgative properties, so that it removes the dark and slimy matters which have accumulated in the child's bowels before birth. But it shortly acquires richness and strength, coincident with the increased power of the child's stomach to digest it. Besides, the flow of milk is encouraged by the suction and sympathetic action of the child's mouth, and the mother runs no danger of enlarged and painful breasts, or of arrested secretion, or retention of milk. The mother must be cautioned against over-filling her child's weak and tender stomach, and against giving any other food than her own milk, or the best substitute for it, during at least the first six months of its life. If this injunction be not observed, severe pains in the belly, resulting from indigestion, will follow, and permanent disease may ensue. It is customary to give the child the breast every time it cries, under the very mistaken notion that it never makes a noise except when hungry; the fact being, on the contrary, that its expressions of pain are, in the majority of cases, attributable to repletion of the stomach. The mother should give the breast at stated periods, in order to habituate the child to regular habits of feeding. Thus it requires milk every second or third hour during the first month, and afterwards, every third or fourth hour. It may need food three or four times during the night, but subsequently, it will be sufficient to give it suck only at night and in the morning. The results of this methodical arrangement are no less beneficial to the mother than to the child; for nothing can be more

harassing and hurtful to both, than the prevailing and ignorant custom of letting the child sip now and then throughout the day, and when it is desirable to silence its cries by the potent power of milk.

As a general rule, a mother ought to suckle her own child for at least six months, unless she be delicate; in which case the constant drain would exhaust her, and the milk produced by an enfeebled constitution would have its richness so reduced as to be insufficient to nourish the child; or its properties would be so altered that the child's stomach may not be able to digest or retain it without danger. But when these hindrances do not exist, no other food but milk must be given, because none other is needed. When the mother is informed that the slightest ailment or disturbance of health on her part, exercises a considerable influence on the suitability of the milk which she furnishes to her child, she will see the necessity of being regular in all her habits, in studiously guarding against all infringements of hygienic laws, and in avoiding fatigue and all mental emotions, such as grief, fear, anger, etc. Authentic instances are on record where the preceding conditions of mind have so altered the ordinary properties of the milk, that the child, on taking it, has languished and died. A mother may therefore brew the poison that shall destroy her child suddenly or gradually, unless she warily conserve her own health and remain tranquil and composed in mind.

The mother's milk is a model food, and is exactly adapted to its office; it contains every material

necessary to the growth and development of the child's body—various *salts*, to build up and to repair the bony, muscular, and nervous fabrics of its body; *water*, to slake thirst and to replenish the waste of liquid; *oily matter* and *sugar*, to support respiration and to generate animal heat; and *caseine*, to repair the wear and tear of the tissues, after having become animalized and transformed into blood. The mother's milk, then, or its nearest artificial analogue, will of all other foods conduce the most to health and contribute to the growth and development of the physical organization.

When the mother cannot give suck to her own offspring, wet-nursing is sometimes resorted to; but this practice is objectionable on moral grounds. Hand-nursing must then be tried, and, provided suitable food be given, the child will thrive and go on satisfactorily. But how often is the proper food given? Mothers ignorantly err in supplying their progeny with aliments that occasion indigestion, pains in the bowels, purging, and other complaints in themselves trifling, but of serious import as laying the foundation of irreparable disease. The adaptation between human milk and the digestive capabilities of the child's stomach is so nicely balanced, that when hand-feeding has to be practised, the mother must select a substitute which bears the nearest resemblance to her own milk. The milk of several domestic animals has been given, but the results of their use are not universally satisfactory. The profession and the public are indebted to Mr. Turner, homœopathic chemist of Manchester, for first introducing the only true analogue of human

milk, as respects chemical proportion and constitution. It has been put to the test of practice, and is found to answer precisely the same ends as its natural prototype. The writer speaks from experience, and strongly recommends its extended employment, for it may be, as it has been, the means of saving many a little being, whom a mother's love and tender care would fain shield from the stroke of death. *It is made by mixing three-quarters of a pint of cow's milk, new and good, with the same quantity of boiling water, in which one ounce of sugar of milk has been dissolved by boiling.* The water containing the sugar of milk should be thoroughly boiled in order to increase its solvent properties and to expel the atmospheric air which it holds in solution: the latter might cause flatulency in the child. The fluid prepared in this way is best given in the feeding-bottle, nipples with a teat in the usual way, care being taken that both are thoroughly cleaned and free from sour smell before using them. The food may be made richer, according as the child may require, by adding a little fresh cream. If it need suckling in the night-time, the food may be slightly warmed in a pipkin over a spirit-lamp.

Infants need much sleep; indeed, the first few months of their life are passed in sucking and in sleeping; the purpose effected by this arrangement being their steady growth. They should never be disturbed when slumbering. The natural couch is the mother's breast—there she can manage it well, there it is in juxtaposition to the source of its food, and there the mother can impart her heat to augment the child's. Care,

however, must be taken that it can breathe freely ; that the clothes do not close its mouth or obstruct its nostrils ; and that they do not cover its head, which would necessitate the repeated breathing of air rendered impure by having passed through the lungs, and by being mixed with cutaneous exhalations from the bodies of both. The mother must, in addition, mind not to breathe upon it, for the child would then be compelled to inhale impure air laden with carbonic acid derived from the lungs. Rocking-cradles are decidedly bad, and should never be used ; the child will sleep soundly without being lulled and stupefied by a monotonous movement. Never begin them, and they will never be required. Place the infant on a hair-bed, in a large and open room where he can freely breathe the purest air, and cover him lightly and loosely with clothing suited to the season. The use of purging and sleeping medicines cannot be too strongly reprobated.

As the child gets older, it will be necessary to alternate spoon-food with the mother's milk. This is the more necessary when the mother is delicate, and the nursing is evidently debilitating and exhausting her. In such instances the protracted suckling of the infant lays the foundation of dangerous diseases in the mother's body. No stated time can be named when spoon-nursing should be commenced, because so much depends upon the ability of the mother to afford the usual supply of milk. The growth and the health of the child must also be taken into account, for although, as a general rule, the teeth

appear, and therefore the food requires to be changed, at about the ninth or tenth month, it is not unusual to meet with infants without teeth at a much later period. When, therefore, a mother is thinking of weaning her child, she must consider her own condition and the forwardness of the child's development. If she determine upon this important step, she must conduct it gradually and watchfully: gradually, because the child's stomach and bowels would be deranged, and its general health much impaired by a sudden transition; whilst the mother, too, would be liable to suffer from the sudden suppression of an accustomed drain: watchfully, because disease of the glands of the belly not seldom manifests itself about this period, by enlarged abdomen and voracious appetite, consequent upon improper management. A longer interval should take place between the regular periods of suckling; then, in a little while, no milk should be given during the night, but only in the morning and the evening; later still, spoon-meat should be administered at the vespereal and matutinal repasts. The diet ought to consist of milk mixed with a small proportion of arrow-root, or grated rusk. Sago, farina, bread, and semolina, made into a thin gruel by boiling with milk, are also excellent aliments for this period of infancy. In some cases, chicken or beef-tea may be advantageously allowed; but in all cases the nature and quantity of the food must be rigorously adapted to the child's natural wants. Mothers too often indulge their progeny with excessive quantities of food, and never restrain the child's

cravings, which are no sure criterion of its requirements. The results are most injurious, and every woman who has at heart the welfare of her young, ought to guard against these controllable evil influences.

*Cleanliness* must be constantly observed. The clothes should, therefore, be frequently changed, especially when soiled, and others put on, previously well-aired and warmed. The child should in early life be bathed in the mornings and the evenings, care being taken to remove all the impurities consequent on the evacuations from the bowels and the bladder. It is better to immerse the whole of the body up to the neck at once, in preference to exposing it alternately to the action of air and of water. A soft sponge is the best means of effecting the removal of dirt or other cutaneous uncleanness. The body requires to be afterwards thoroughly and carefully dried with soft cloths, and friction with the hand will renew the superficial circulation. The intensity of the heat must be measured rather by the thermometer than by the less certain sensations of the hand. The temperature should be about 94° or 96° Fahrenheit. As the child becomes older, tepid water may be substituted, and, at a still later period, water almost cold may be used without danger, and with positive benefit, unless the child is weakly and ailing.

*Exercise* demands much attention and judicious management. In early life the bones are soft and cartilaginous, the muscles weak and unable to act, because their stimulus, derived from the functions of



the brain and spinal cord, is wanting; hence, the exercise of the muscles, called into action by breathing, crying, and jactation, is sufficient for this period. Bearing in mind the condition of the child's body, the impropriety of active exercises is at once apparent. The child must not, therefore, be carried in a sitting, but in a straight or reclining position in the nurse's arms or in a perambulator. If this be not done, and if any violent, active exercise, improperly begun and conducted, be prematurely resorted to, the child will in all probability have a crooked back and bent limbs. It must not have its legs crushed by the nurse's arms, or its head thrown to one side and its trunk twisted, owing to her awkward way of holding it; or be violently dandled, or otherwise subjected to rough usage; or have its arms dislocated by lifting it up by the hands, instead of placing one hand on each side of the chest just below the armpits. In the summer season it may, after the first two months, spend one or two hours in the open air, and as it gets older the time may be lengthened. In winter or unfavourable weather at other seasons, much care must be exercised in not exposing it to changes of the weather. Warm clothing is then especially necessary. As the bones acquire greater solidity and strength, and the muscles become better adapted as instruments of motion, the child will, at the proper time, make bold efforts in voluntary movement. A little help on the part of the nurse—such as placing the hands below the armpits—will enable it at an early period to balance its body and move about

for itself. It is at this period that pure air and out-of-door exercise have so much power in imparting health and strength, and in affording objects upon which the infant's mental development may feed and enlarge.

But the body must not engross the mother's sole attention, for the mental and moral nature of her child demand the most careful culture. Woman is at once our parent, nurse, tutor, and guardian ; and our physical, mental, and moral health and superiority, depend very materially upon the manner in which she performs her important duties. It is her work to direct and to control the unfolding capacities of her child. She should adapt herself to its wants ; avoiding, on the one hand, a ready and indiscriminate acquiescence in its desires ; and, on the other hand, a constant and unbending opposition to its cravings and inclinations. Her conduct should be characterized on all occasions, in her intercourse with the impressible nature of the infantile development, by kindness, sympathy, unvarying truth, decision of character and purpose, gentle and affectionate demeanour and a readiness on all occasions to convey knowledge, to satisfy real needs, to guard against evil influences, to train the mind to acts of self-reliance, to cultivate the dawning powers of intellect, and especially to enforce obedience to sound moral precepts.

## PART II.

### ON HEALTH.

#### CIRCUMSTANCES AFFECTING IT, AND THE MEANS OF PRESERVING IT.

TEMPERAMENT—CONSTITUTION—HEREDITARY PREDISPOSITION  
—BATHS—EXERCISE—SLEEP—VENTILATION—DIET, ETC.

I. HEALTH may be said to be the state of a living body, whose component parts are properly organized and arranged, each performing its allotted function easily, freely, perfectly, and painlessly.

The external characteristics of health are a fully developed and well-proportioned frame, of medium height and stoutness, and with broad shoulders and large chest; sound teeth; cheerful face; erect gait; ability to stand fatigue; firm and elastic locomotion. The heart and arteries beat regularly, fully, and strongly; the breathing is full and unimpeded; the appetite good, and desiring only simple aliments; the tongue clean, and the breath free from bad smell; the bowels void a natural and daily motion; the sleep is sound and refreshing; the skin soft and moist, but without profuse perspiration; the digestion regular, and without pain or flatulence; the variations of the weather produce no injurious effect, etc.

Health, in its strictest meaning, is seldom enjoyed, and hence differences are traceable in the same individual at certain times, and also between one person and another. These differences may, however, not amount to actual disease, for the person may still be able to apply himself to pursuits demanding much bodily vigour and energy. Individual and general causes operate in influencing health.

II. Individual differences of health arise from temperament, idiosyncrasy, constitution, hereditary predisposition, and age.

1. *Temperament*.—This word expresses a peculiar organization of body which characterizes many individuals and influences their thoughts, actions, and bodily health.

There are four primary temperaments, viz., the sanguine, the bilious, the nervous, and the phlegmatic; but in the generality of cases, these temperaments are combined together, one or other predominating more or less distinctly.

(1.) The sanguine temperament is indicated by soft pliable skin, red or chestnut hair, blue eyes, florid complexion, medium stoutness of build and of general conformation. The mental powers are active and facile, but fickle; wit, humour, and general sprightliness of behaviour characterize the sanguine.

(2.) The bilious temperament is indicated by dark swarthy complexion, hardness and firmness of expression, and strongly-marked features, black or dark-coloured eyes and hair, and the muscular system hard and firm. There is great energy of character, firmness

of purpose, unflagging powers of perseverance, quick perception, sensibility of feeling, and strong passions, combined with sentiments of pride, ambition, generosity, and magnanimity.

(3.) The phlegmatic or lymphatic temperament is characterized by round form, flabby muscles, fair hair, blue or grey eyes, pale waxy skin; the expression of the face and the "presence" indicate calm feelings, feeble physical endurance, mental inaction or quietude, and, in short, mediocrity of both physical and mental organization.

(4.) The nervous temperament is recognized by spareness of body, delicate muscular development, thin lips, lively expression of eyes and of countenance, fair hair, feminine facial contour; activity, but fickleness of mind and lively imagination.

(5.) The melancholic and the athletic temperaments are noticed by some writers; the former is a modification of the bilious, and is distinguished by indomitable perseverance and firmness of purpose; taciturnity and reserve; constancy of feeling; calm and serious bent of mind, energetic action, tenacity of impressions, and an inclination to despondency and to misanthropy: the latter is allied to the sanguine, from which it differs chiefly in that the physical development and capacities predominate over the mental.

Different diseases affect the subjects of each temperament; thus, the sanguine is prone to inflammatory affections generally, such as implicate the brain, lungs, bowels, etc.; to fevers characterized by intense

inflammation, and to discharges of blood from arteries; the bilious, to derangements of the liver, stomach, and bowels, chronic cutaneous affections, mental derangements, ending frequently in melancholia and in hypochondriasis; the lymphatic, to the various forms of scrofula, such as may involve the lungs and end in consumption; to dropsy, slow fevers, and congestions; the nervous, to mental aberrations, convulsions, hysteria, nervous fevers, and various other diseases affecting the brain, spinal cord, and nerves.

2. *Idiosyncrasy* refers to a peculiarity of constitution in an individual, which distinguishes him from all the other members of the same temperament. Thus, certain common articles of food which agree with most people, cause violent poisonous effects in others; medicines, also, have their ordinary action altered by this individual peculiarity.

3. *Constitution* refers to the physical conformation—to the development and condition of the body, independently of the temperament under which the individual may be classified. Thus, we speak of a consumptive constitution, when the subject has blue or grey eyes, long eyelashes, a slender figure, spare habit of body, thin upper lip, flat chest, long fingers, with club-like ends, and large joints; of an apoplectic constitution, recognized by bull-head, short thick neck, stout make, florid complexion, etc.

4. *Hereditary predisposition* denotes the transmission from parent to offspring, or from ancestor to descendant, of some peculiarity of constitution which exposes to the same disease. The parents have, of

course, considerable influence in transferring their own peculiarities of temperament or of constitution to their children, and hence we find a more or less complete resemblance inherited, as regards bodily structure, talent, temper, and general disposition. Hence, also, they transmit a liability which involves the children of one generation in the same diseases that affected the members of a preceding one, the son not unfrequently being attacked at the same age, and in precisely the same manner as his father. Sometimes these constitutional tendencies to disease, or simply traits of character, skip over one generation and appear in the next. Amongst the diseases, a proclivity to which is born with the offspring, we may mention mental derangement, consumption, gout, gravel, scrofula, asthma, stone, hæmorrhoids, cancer, apoplexy, epilepsy, disease of the heart, etc. Constitutional diseases are, however, not always inherited, but are sometimes referable to circumstances connected with the marriage of the parents. The condition of the parents' health, and the hygienic management of the pregnant state on the part of the mother, will also exercise no unimportant share in creating, or in exempting from, constitutional disease in the child.

5. *Age*.—Some periods of life are marked by a certain class of disorders. Thus, in infancy and childhood, diarrhœa, tabes, worms, glandular affections, water on the brain, convulsions, measles, scarlet fever, small-pox, whooping-cough, etc., are rife; at puberty, epilepsy, chorea, hysteria, melancholy, derangements

of the mind, consumption, continued fevers, diseases of the heart, and inflammation generally, are the most frequent deviations from health; in adult age, derangements of the digestive apparatus, gout, rheumatism, apoplexy, and paralysis, gain the ascendancy; whilst in old age, bronchitis, asthma, dropsy, affections of the bowels, kidneys, liver, and heart dilapidate the worn-out structure.

III. The preceding, then, are the original circumstances, connected with individual organization, which militate against health, and operate without direct or personal interference. Man is, however, exposed to numerous other agents destructive of health, which are more within his jurisdiction and control than the tendencies to disease inherited from his parents. Our space will not permit us to do other than barely to enumerate the chief *general* causes which give rise to the acquired differences observable between the health of one man and that of another. Some of the causes refer to the atmosphere, as regards its heat, moisture, electricity, and impurities, whether consisting of the gases given off from putrefying vegetable and animal matter, or of mechanical admixtures, such as unconsumed particles of carbon, dust, etc.; others concern the quantity and nature of the food; for whilst poverty and its consequences prevent a liberal supply of aliment to compensate for the wear and tear of the system, so, on the other hand, does plenty sow the seeds of disease, and undermine the health by luxurious living; late hours of retiring to rest; performing many day duties at night; forced education; unsuitability of clothing



to the climate, both as regards shape and material ; confinement in close rooms, crowded with other persons, and badly ventilated ; certain occupations which overstrain one part of the body, and never call others into use ; sedentary habits, and indolence ; over-exertion, and undue physical or mental activity ; mental emotions, especially of the depressing kind ; the use of ardent spirits : these are a few of the causes to which ill health, disease, and death may be traced.

IV. Health may be preserved, improved, and restored by various circumstances which have both a salutary and a sanatory effect upon the physical and the mental nature. Amongst these it will be sufficient to remark upon *personal cleanliness, exercise, sleep, clothing, diet, and ventilation.*

1. *Personal cleanliness* is indispensable to health, because it secures and promotes the healthy function of the skin. The skin, amongst its other offices, has to free the body from carbon, which, if retained, would destroy life ; it has to absorb various fluids and gases from the external world ; it separates salts and serosity from the blood ; by means of *insensible perspiration*, or the conversion of the fluid sweat into vapour, heat is given off from the body in what is called a *latent* state, by which means the undue and injurious accumulation of caloric is prevented, and an equable temperature is maintained ; it secretes an oily fluid which lubricates the general surface, obviates the effects of friction between opposed portions of the integument, and renders pliable such parts as are frequently stretched or bent. In order that

the skin may be enabled to perform these important functions, essential to the maintenance of health, it is necessary that it should be cleansed from accumulations of dirt, sweat, unctuous matter, and scaly portions of the outermost layer, which is in constant process of detachment and renewal. The agents employed are water and soap, the latter of which dissolves the oily secretion and facilitates the removal of all other kinds of foulness. Water may be employed in several ways, which will now be reviewed.

Baths are variously divided according to their temperature, to the part where they are applied and to the manner of their use, but it will suffice for our purpose to arrange them into *cold* and *warm*.

(1.) THE COLD BATH varies in temperature from 42° to 85° Fahrenheit. Cold water may be applied in the following ways:—

*a. The Plunge Bath.*—This may be enjoyed in rivers, canals, streams, ponds, swimming baths erected in several towns, and at the sea-shore, whither so many repair during the warm summer season for the ostensible purpose of recruiting or of retaining their health.

*b. The Shower Bath.*—In this variety the water falls, gradually and regularly, through numerous holes in the bottom of a receptacle placed at a height, upon the head and body, whilst the bather stands in a shallow dish, and is surrounded by an enclosed box or covering.

*c.* But in those cases where the shower bath cannot be used, or when it diminishes rather than exalts the vital forces; when, also, the object sought is to

derive all the benefits connected with cold ablution, the following plan will be found the most agreeable, convenient, safe, expeditious, and economical. The bather will hasten to use the water as soon as he rises from bed *every* morning, that being the period when his body contains the most heat and can tolerate the application of cold water with perfect impunity. Let him then dip the roughest towel into cold water and begin rubbing his body from head to foot, whilst he stands upon a piece of old carpet, or in a shallow tin basin made purposely. After the body has been thoroughly well rubbed down, and all uncleanness removed, it must be as thoroughly dried. A coarse towel, horse-hair gloves, or the flesh-brush, may be used actively, and over the whole body, for the purpose of exciting the circulation of blood through the skin.

*d. Sea Bathing* deserves separate mention, because it possesses several peculiar advantages in consequence of the saline matters held in solution in sea water. It is an advantageous medicinal agent in pains and swellings of the joints, and in numerous old-standing diseases of the skin. Bathing in the sea, and out-of-doors generally, whether in rivers, streams, or ponds, demands attention and obedience to the following regulations:—Bathe when the weather is warm, the body not over-heated or perspiring, neither too long before nor immediately after a meal, and in the forenoon rather than at any other period of the day. Running waters—as rivers, canals, and the advancing sea tide—are very invigorating to the body. Sea water

may be roughly imitated by dissolving about three ounces of common salt in a gallon of water.

The effects produced by the application of cold water differ in degree according to the manner of its employment ; but, in a general way, they are at first a sensation of cold, conjoined to what is called a "shock" to the nervous system, under the influence of which the respiratory organs are excited and a full inhalation of air takes place. Hence the reason of dashing and of sprinkling cold water on the face and chest of those in whom life is apparently extinct. The blood-vessels of the skin are then contracted, and consequently the blood is driven into the interior of the body. In some states of the system, when the constitution lacks vigour and energy, the blood remains accumulated in the internal organs and may produce much injury, especially if there exist any tendency to disease of the lungs, the heart, or the brain. Cold bathing must therefore be eschewed, or cautiously repeated, when it gives rise to sighing, yawning, beating headache, difficult breathing, sickness at the stomach, tremblings, languor, drowsiness, aversion to exertion, rough skin, etc.

But if, on the other hand, reaction ensues and is established, the full and unqualified advantages of bathing will be enjoyed. This will be declared by the water feeling less chilly in consequence of augmented warmth of the skin, through which the blood is flowing in increased quantities and with redoubled force. If now friction be vigorously used, as it ought to be, the pulse becomes full and strong, the respiration

deep and free, a delightful sensation of heat is experienced over the general surface, the body feels lighter and more elastic, tone is imparted to it, and the bather feels himself braced up, invigorated, and refreshed. The mind also shares in this improvement; hope takes the place of despondency, confidence that of vacillation; feelings of self-respect are aroused; and, in short, personal cleanliness, such as the use of cold water secures, will tend to enlarge the mind, to improve the morals, and to add new charms and allurements to the home circle and to the domestic fireside.

As a sanatory agent cold water may be employed with decided advantage and undoubted success in nervous debility, chlorosis, hysteria, local congestions, febrile conditions, and in many other deviations from health, upon which a medical man is alone competent to advise.

(2.) THE WARM BATH may, practically speaking, be said to reach from 85° to 108° Fahrenheit—these points of temperature including what are commonly known as the *tepid*, the *warm*, and the *hot* baths.

For ordinary purposes, the warm bath should be used at a temperature of from 90° to 98°, according to the effect desired and the sensations produced. It is suitable for cleansing purposes, with the aid of soap, and may be occasionally resorted to by the habitually healthy, who use daily sponging with cold water, in order to remove impurities from the skin; to soften and increase the sensibility of the surface; to lower febrile excitement; and to correct the nervous derangement consequent on the

fatigue of travelling, or of any other kind of muscular exertion long continued; to refresh and invigorate the body; to moderate the circulation and calm the cerebral functions after protracted mental exercise; and to relax spasm and allay irritability in the convulsions of children, whether symptomatic of a head affection or incident to teething. Medical men sometimes advocate its employment in fevers, diseases of the skin, gout and rheumatism, colic, dyspepsia, etc. Many persons are deterred from using the warm bath in consequence of the fear of "catching cold." If they will attend to the following advice, their fears will never be realized. Let the bath be taken in the morning, or at any rate *not later than noon*; do not enter it when the body is *heated with exercise*; the water should be at the temperature of from 92° to 96° Fahrenheit; remain from twenty to thirty minutes; then, having cleansed the skin with the aid of soap and the flesh-brush, turn on the cold water and let the warm slowly escape from the bath; continue thus until it becomes so cold that a feeling of chilliness is experienced; then emerge, and a grateful and refreshing sensation of warmth will be felt; dry briskly with a rough towel; apply friction with a dry one; dress slowly, that perspiration may not be excited; and then take a quiet walk.

The hot bath, ranging in temperature from 98° to 108°, is mentioned solely that we may throw out a caution regarding its indiscriminate employment. In consequence of its power in increasing the force and

frequency of the heart's action, cases of sudden death are recorded, arising in those predisposed to apoplexy and to diseased heart. It should never be used except under medical supervision.

Personal cleanliness is not confined simply to the skin, but extends also to the condition of its appendages, viz., the *hair* and the *nails*; as well as to the *teeth* and the *clothing*.

The hair should be thoroughly combed and brushed every day, in order to remove scurf, and to stimulate the glands to secrete the oily matter which keeps the hair glossy and healthy. The best detergent wash with which the author is acquainted, is made by dissolving a drachm of camphor in one ounce of spirits of wine, adding a drachm of borax, and a pint of cold water. Shake well up; rub upon the scalp with flannel once a-week, and afterwards dry with the same material.

To keep the teeth sound, free from pain, and fit for mastication, and the breath sweet, clean them regularly every night and morning with a soft brush and cold water. Soap may be occasionally used, and if they are discoloured, a little finely-powdered wood charcoal will restore their naturally beautiful whiteness.

Trim the finger and toe nails, and keep both scrupulously clean, as well for cleanliness, as to remove the possibility of sore, tender, chilblained, bunioned, and bad-smelling feet.

The body-linen and bed-clothing should be changed as often as occasion demands and circum-

stances permit; the former should be turned inside out and hung upon the chairs during the night, to be purified by exposure before putting them on again in the morning; the latter should be well aired during the day, by opening the bed-room door and windows to admit currents of fresh air.

2. *Exercise*.—Exercise is divided into active and passive. Dancing, running, rowing, walking, boxing, wrestling, etc., are placed under the first class; sailing, swinging, and carriage exercise, under the second. In the former, the individual exerts his own muscles; in the latter, they are tolerably quiescent, and some other force moves him. Exercise is essential to health, because it requires the muscles to be moved, and the more they are used the stronger they and the limbs become; the action of the bowels is promoted by the movements of the abdominal muscles; the circulation of the blood is assisted by the alternate contraction and relaxation of the muscles among which the vessels are situated; the action of the skin is kept at its natural function of eliminating from the body carbonic acid and salts, whose retention would be injurious; it necessitates the full and free entrance of air into every air-cell in every nook of the lungs; it aids in digesting and assimilating the food; and when indulged as it ought to be out of doors, has the additional advantages of furnishing good and pure air, and of supplying new objects of sense which the mind can apply to a profitable purpose. In order to secure all these advantages, it is essential that the whole muscular system should be duly exercised. The opposite of



this obtains in the exertion of artisans. Some of the muscles are more used than others, and hence they become disproportionately developed; whilst those at rest waste, and deformity of body results. Tailors, shoemakers, dressmakers, and other persons whose occupation taxes some muscles more than others, and who are compelled to maintain one posture for many hours daily, perhaps for many years; shopkeepers, clerks, lawyers, artists, literary men, and others, whose employment is of a sedentary character, and who, though not subjected to the deforming influence of artificial positions, are yet exposed to the injurious effects of deficient exercise;—all are apt to suffer in health; the former class being prone to diseases of the chest; the latter, to disorders of the digestive organs. Many of them are under the additional drawback of having to apply the brain to long-continued and severe mental exertion; and to respire air which has been repeatedly breathed.

In the education of the young, considerable injury is committed by endeavouring to curb the natural exhilaration of spirits which prompts to all those kinds of muscular movements that conduce to the development and vigour of the frame. The same remarks apply with equal force to the ignorant repression of the natural instinct which induces girls and young women to indulge in games, sports, and other pleasurable schemes of physical recreation. It is considered indecorous to display the smallest deviation from the line of conduct which the mistress of the school considers best suited to the established

usages of a fashionable education, which is characterized by formal and restrained exercise of body, and too great application of mind, leading to curvature of the spine, consumption, and, in short, to general physical and mental prostration.

It is unnecessary to specify the numerous intractable and painful affections which owe their origin to restricted or to defective muscular movements.

On the other hand, excessive exercise has also its evils. It hurries the breathing, accelerates the circulation, produces nervous and muscular exhaustion, which not only injure health, but may destroy life. Rowing in races, and other varieties of violent exertion, have been known to lay the foundation of permanent and incurable disease of the lungs and the heart, in persons previously healthy. The risk of immediate danger is much increased when persons of sedentary habits undergo severe and unaccustomed exertion. Moreover, it behoves those who complain of palpitation of the heart, general debility, of congestion in the head, or shortness of breath, to abstain from all exertion, save gentle walking exercise on level ground.

But as our remarks apply chiefly to exercise as a means of retaining health, we must now point out the simple rules by which it should be regulated.

Exercise, then, should never be taken to excess, or carried to the point of producing that peculiar feeling of muscular and nervous exhaustion which is called fatigue. Absolute rest is then requisite to enable the muscular system to renew its power and vigour.

Walking long distances, or subjecting a weak constitution to exertion beyond its powers, is sometimes followed by exhaustion which may end in death.

Exercise, especially of the active kinds, should never be taken immediately after a meal.

Exercise should, if possible, be combined with some pleasurable or intellectual pursuit: pleasurable, such as sports, games, and other agreeable modes of enjoying bodily recreation; intellectual, such as botanical excursions and easy pedestrian tours, in which the monotony of travelling, and weariness of body will be forgotten amidst the natural and picturesque beauties of Nature. Exercise should be taken in the open air every day for at least two hours, especially in the warm summer season. A stroll into the country, or a walk through the public park will refresh and invigorate.

Exercise, specially adapted to increase the capacity and strength of the lungs, is of the greatest importance in delicate people of both sexes, in order to counteract a consumptive tendency. The full inflation of the lungs with air is also necessary in health, that the changes in the condition of the blood may be fully undergone. Recitation, speaking aloud, fencing, full and repeated acts of inspiration, attended with throwing back the arms and the shoulders, and thrusting forward the chest, will be of great service in strengthening the organs of respiration. These exercises should never be carried so far as to cause quick beating of the heart, or

hurried breathing, exhaustion, fatigue, or profuse perspiration.

3. *Sleep*.—Sleep is the temporary suspension of the powers of mind and body, which recurs at certain times. It is essential to health, because its use is to procure absolute rest of mind and body after they have become fatigued and exhausted by exercise. In sound sleep, the power of voluntary movement is in abeyance and the muscles are relaxed, whilst those of circulation and of respiration carry on the purely animal functions; the sleeper is quite unconscious of surrounding occurrences, ordinary stimuli do not affect his senses, and, in short, there is complete cessation of all physical and mental power.

On the other hand, the mind, instead of being at rest, is sometimes actively but irregularly employed, owing to the reasoning powers being unable to exercise their governing influence. Sleep may be prevented, or rendered imperfect or unsound, by several causes, such as green tea, strong coffee, a late supper, or a full and hearty dinner taken shortly before retiring to rest; mental emotions, or protracted mental exercise, also give rise to wakefulness, dreams, and nightmare.

Excess and deprivation of sleep are equally prejudicial to health, and a medium between the two extremes can be determined only by considering the peculiar temperament and habits of the individual. As a rule, the duration of sleep averages in the majority of the human race from six to nine hours.

Individuals of wiry frame and parchment-like constitution; those also who have lively dispositions, active powers of mind, and abstemious habits, require only from four to five hours.

4. *Clothing*, is required to protect the body from exposure to outward influences, of which the chief are—injuries and atmospherical vicissitudes. Clothes should be loose; high and tight bands round the neck are apt to occasion apoplexy especially in hot weather, and during violent or protracted exertion; inelastic stays, fitted with steel and whalebone supports, are decidedly injurious, frequently produce deformity, and render the body liable to fatal diseases; tight waistbands and belts give rise to obstinate costiveness and piles; tight shoes inflict pain, prevent exercise, cause corns, bunions, and mis-shapen feet, retard the circulation of the blood, and thereby predispose to congestion in the head.

Clothes should be moderate in quantity. Too little would, especially in the young and the old, whose animal heat is imperfectly generated, lead to the worst consequences. Children will not be “hardened” but *destroyed* by investing them with vestures inadequate to protect them from inclement weather.

Clothes should be warm. For this purpose woollen fabrics are the best, because being bad conductors of caloric, they prevent the escape of heat from the body, and the entrance of heat to it from outward sources; hence the animal temperature is maintained at an equable standard. Flannel is now

much worn next to the skin. Its advantages are, that it keeps up an equal heat, irritates and stimulates the skin, and absorbs perspiration. When it causes much sweating it should be changed for cotton, or a thin cotton shirt may be interposed between it and the skin. Chamois leather unites the advantages of both cotton and flannel, and may advantageously supplant them.

Clothes should not be excessive. Flannel, skins, and other materials are used, under the mistaken notion that they protect the wearer against catching cold. Overclothing, either of the body or the bed is decidedly bad, and will inevitably augment the risks that they are erroneously designed to avoid. Waterproof clothing is prejudicial, which prevents the evaporation of the perspiration and imbues the under-clothing with condensed sweat, thus causing cold, rheumatisms, and other diseases.

Clothes should be clean; this is especially desirable when flannel or any other porous texture is worn over the skin, for they soak up the various excretions from the surface. But the same attention should be paid to all other articles of apparel. Personal cleanliness is not confined to the purification of the skin.

Clothes should be well aired. Body and bed-clothing require warming previous to use, else the health will suffer. The bed linen should be exposed during the forenoon to currents of air passing through the room from door to window. The personal clothing should not be heaped together, but laid fully out during the night, in order to have them well aired

and purified before morning. Stockings, drawers, and shirts must be turned inside out.

Clothes must be changed when wet, whether from exposure to rain or from profuse perspiration. Wet stockings and boots should be immediately removed, unless the wearer continues to exert himself. Damp clothes must not be put on, nor must any one sleep in damp beds. Inattention to these precautions is a prolific cause of consumption and other fatal diseases.

Clothes must be suitable rather than fashionable. The bonnets which are stuck on the backs of the fair sex's heads expose the face; hence neuralgia and other evils are occasioned. We know of no defensible reason to justify the wearing of immense hooped petticoats. Tight-lacing we have already strongly animadverted upon. Thin shoes, as worn by ladies, cannot protect their delicate feet from wet and cold.

Clothing must be seasonable—that is to say, adapted to the season of the year, warm in winter, cool in summer. But great care must be exercised, especially by delicate and sedentary individuals, in changing the material of their attire. It must never be done too soon, for it is only when a succession of fine days occurs in early summer, that the weather is sufficiently fixed and warm to admit of the substitution of cooler apparel, without encountering great risks of disease. It is rarely necessary to wear flannel through the summer, but in leaving it off the change must be gradual. A cotton shirt should be worn between the skin and it, and after a few days

the flannel may be altogether dispensed with, provided the weather be favourable. It is altogether a mistake to wear the same clothing throughout all seasons.

5. *Ventilation* is the operation of supplying apartments or enclosed places with fresh air in order to maintain the atmosphere in a constant state of purity such as is essential to animal life. The necessity for the constant admission of fresh, and the simultaneous displacement of contaminated, air arises from several circumstances. Breathing and perspiration load the air with carbonic acid, animal matter, and impure vapour; hence, if the same air be repeatedly taken into the lungs, it eventually becomes strongly impregnated with deleterious bodily emanations, and death may ultimately ensue, attended with all the symptoms of rank poisoning. Hence the uneasiness and discomfort experienced in chapels, theatres, at public meetings, and other places where hundreds and thousands of human beings are pouring the foulest abominations into the atmosphere which all are breathing. Hence the fatal, unmanageable, and insidious illnesses which result from crowding together in ships, prisons, work-rooms, manufactories, schools, etc. Hence the pallid, sickly faces, the languid look, the hesitating gait, the stunted, wasted form, and the paralyzed energy of the lower classes—at once the victims of poor food, scanty clothing, bad ventilation, and their offspring—drunkenness.

Further, the air may be rendered still more impure by the burning of candles, gas, and coal; by



having plants in pots, or flowers in water, which, as they give out at night the same gas that issues from the lungs, are highly injurious; hence, they should on no account whatever be kept in a bed-room; and, lastly, by keeping dogs, parrots, cats, or other domesticated animals, whose breathing aids in the pollution of the air.

The air is, in these several ways, rendered incompatible with animal existence, for on its purity mainly depends the healthy maintenance of the vital functions. Ventilation, then, is the remedy for this common, glaring, and destructive evil; and the means are either natural or artificial. We have no space to enlarge upon the latter class; the former are fire-places, chimneys, windows, and doors. Every apartment, and especially bed-rooms, should be built with chimneys, and the fire-place must not be closed up with a board, as is too frequently done through ignorance. Then, when the fire is lighted, the fresh air passes in currents through the *lower* part of the door and the windows to the chimney; whilst the impure air, being rarefied and lightened by the heat of the lungs or of combustion, rises to the ceiling and makes its exit through the *upper* part of the window and the door. The first principle then of ventilation consists in securing two openings of some kind or other: one, as the aperture of entrance of fresh air; the other, as the aperture of exit of impure air. No expensive or complicated piece of mechanism is required to bring in fresh and to expel foul air. This can be done by opening the windows and doors, until the apartment

is thoroughly purified. The bed-room and bed-clothing demand thorough ventilation. Open the door and the upper and lower sashes of the window, separate the bed-clothes, spread them out, leave them hanging over chairs in the middle of the room, shake up the bed, and do not make it for five or six hours. To show the ignorance existing amongst the poor classes, respecting the necessity of fresh air, the writer may mention that he recently attended a poor family, consisting of father, mother, and six children, the latter of whom were of the respective ages of three, five, seven, nine, eleven, and fifteen years. They all slept in one apartment measuring seven feet high, and twenty-four feet square, and yet the only window was firmly secured with a nail! The children had small-pox, but although so disadvantageously placed, as regards comfort and purity of air, all recovered without a bad symptom. Another poor person, living in a smaller apartment, and slowly dying of consumption, had every crevice in the window fastened up with paper and paste!

6. *Diet*.—Much might be written on this important and interesting topic, but we must necessarily confine ourselves to one or two points of a practical nature and bearing. No general rule can be laid down regarding the nature of the food which is best suited to the majority of individuals. Differences of constitution, of age, sex, habit, mode of life, and occupation occasion disparities of taste and variations of appetite, which lay under tribute all the sources whence alimentary materials can be derived.

The *nature* of the food must be in accordance with the natural instincts of hunger and thirst, which will prompt to the satisfaction of the bodily demands by admitting into the body only such materials as will conduce to its benefit. Much will, however, depend upon the digestibility of the substance partaken of, for, of course, different articles of food are variously affected by the digestive process, and consequently, when that function deviates from its healthy state, only such foods must be taken as can be readily acted on and disposed of. Plain food is, in all cases, the best. Epicureanism must be eschewed, if health is to be retained.

An excessive quantity of food is injurious. No one should continue to eat until the appetite is completely sated and the stomach crammed full, because the juice which dissolves the food will not be able to act upon it, and indigestion, sleepiness, and other evils will ensue.

Violent exercise of body or of mind should be refrained from immediately before and after meals; whilst, on the other hand, the habit of sleeping after a full meal is also injurious. Exercise in two hours after a meal will be advantageous.

One kind of food only will not be sufficient for man to subsist upon. The structure of his teeth proves this, and careful experiments have demonstrated that a varied diet is the most conducive to health and longevity.

Food should be taken at regular periods, and care should be observed in not shortening or pro-

longing the ordinary interval between meals to which the stomach has become habituated. A long interval, of eight or nine hours, such as men of business, lawyers, and others with much head-work, are in the habit of observing, weakens the stomach, produces dyspepsia, predisposes to apoplexy, and, in short, undermines the general health as much, nay more, than the opposite custom of eating every three or four hours. A little food frequently taken is more permissible than a large quantity at long periods.

Food ought to be well masticated. Thorough manducation imbues the food with saliva, exposes the surface to the free action of the gastric juice, overcomes its cohesion, and renders it more readily convertible into chyme.

Liquids must be drunk sparingly at meals. No other beverage but water should be taken. Wine, ale, porter, and other drinks of the same nature, are not healthy, because they are not essential to man's existence.

7. *General Habits.*—The use of *tobacco, opium, and spirituous drinks* is unquestionably detrimental to health. Tobacco-smoking, chewing, and snuffing produce various effects, according to the mode of application of the drug. Smoking carries the vapour into the lungs, and produces giddiness, nausea, lassitude, sinking at the heart; nervous irritability; diseases of the liver and stomach; various affections of the throat and air passages; discolouration and decay of the teeth, and cancer of the lip in those who smoke the short clay-pipe. Chewing stimulates the salivary

glands; augments the flow of saliva, which, if swallowed when strongly admixed with the active principle of the tobacco plant, is certain to produce dyspepsia; deadly faintness; depressed action; fluttering and anxiety about the heart; etc. Snuffing occasions many of the constitutional effects of the tobacco, diminishes the exquisite sensibility of the organ of smell, deforms the nose, and thereby interferes with the resonance of vocal sounds. Moreover, snuff is said to be adulterated with lead, and lead-palsy has been decidedly traced to this cause. In short, the use of tobacco, in whatever form, is unhealthy and unnecessary, and is an expensive and dirty vice. The use of opium cannot be too strongly condemned.

Spirituos drinks, it is almost unnecessary to say, destroy thousands of individuals, who might otherwise have enjoyed good health, and have attained a ripe age.

8. All kinds of *dissipation, excessive or deficient mental exercise, idleness, and sloth* militate against health.

Other circumstances might be mentioned, did space permit.

## PART III.

### ANATOMY AND PHYSIOLOGY.

It is proposed to say a few words respecting each of the more important constituent parts of the human frame. An endeavour will be made to divest these subjects of all unnecessary technicalities, whilst such information only will be conveyed as will interest and instruct the general reader.

It is convenient and strictly accurate to regard the human body as a machine, intricately constructed, exquisitely finished, and nicely adapted in all its parts to perform the various and dependent offices which minister to its growth, development, preservation, and reparation—in one word, to its vitality.

The parts of which this piece of mechanism consists are:—A bony frame-work, which is the foundation of the structure, the passive instrument of motion, and the protective means of shielding important organs from outward injury; a muscular apparatus, capable of contraction and of relaxation, and, consequently, of altering the relative position of the body, as regards surrounding objects or its own individual members; a nervous system, composed of brain, spinal cord, and

innumerable nerves—the conjoint centres of sensation, volition, thought, and voluntary movements; and the links which connect the various organs to each other, and these to the brain, in order to produce uniformity of action and congruity of purpose; a digestive apparatus for the reception and the elaboration of alimentary substances, which become metamorphosed into a fluid capable of repairing the tear and wear, decay and death, of all the tissues; a vascular system, with a central pump to propel, and tubes to carry, a nutritive fluid, endowed with a life-principle, into the utmost corners of our mortal tabernacle; a set of circulatory organs, which conduct the animalized food into the ever-flowing current of pre-existing blood; and, lastly, various kinds of instruments—lungs, skin, kidneys, etc.—whose co-operative function it is, in various degrees and in different ways, to depurate the blood from those effete materials which are inimical to its vital properties.

It is the province of anatomy and of physiology to take cognizance of these subjects—the former being the *science* which teaches the structure, situation, shape, and relative position of the component parts of bodies by the *art* of dissection; whilst the latter treats of the various functions which these parts perform. In other words, anatomy inspects the machinery of the body; physiology investigates the laws which regulate, and the results which follow, its varied and complicated movements.

The constituents of the human body differ in three particulars:—

*Firstly*, in the mechanical arrangement of their particles; hence they are divisible into *solids* and *fluids*. •

1. The solids include bones, muscles, ligaments, membranes, nerves, vessels, and the tissues generally.

2. The fluids embrace blood, chyle, lymph, chyme; secretions from various glands, as milk, tears, saliva, etc.; secretions from membranes, such as perspiration, mucus, etc.; others of subordinate importance might, but need not, be enumerated. The proportions of fluids to solids in the body is estimated as nine to one.

*Secondly*, in relative position, according to an artificial division which separates the body into *head*, *trunk*, and *extremities*. Of these we shall again speak.

*Thirdly*, in the purposes they subserve. This philosophical and comprehensive classification will best serve the purposes of description. The assemblage of organs comprising the human body may, accordingly, be arranged into three groups, viz.:—I. ORGANS OF MOTION; II. ORGANS OF DIGESTION, CIRCULATION, ETC.; III. ORGANS OF SENSE.

### I. ORGANS OF MOTION.

The numerous and varied movements of which the human body is susceptible, are effected by three different sets of organs:—*Firstly*, *bones*, which are the passive instruments; *secondly*, *muscles*, which move them on the application of a requisite stimulus; and *thirdly*, *nervous matter*, which generates and conducts



the active motive force ;—all co-operating, in distinct yet associated ways, in the performance of one common end.

Each kind of organ demands individual notice.

I. THE BONES.—Bone is a hard, dense, firm substance, made up of numerous cells and canals filled with a fatty matter called the *marrow*, which prevents the too great dryness and brittleness of the osseous structure, and communicating with each other and with the external surface of the bone, by the continuation of a fine sensitive membrane called the *periosteum*, which is highly vascular, and serves to convey the blood for the purpose of nourishing the bony fabric of the body. In very early life the bones are at first composed of *cartilage*, but at a later period a deposition of earthy matter, derived from the food, takes place, and they become converted and consolidated into bone. This process, which is technically termed *ossification*, is not completed until about the twenty-fifth year of age ; whilst in old persons, the flexible cartilages of the chest are changed into unyielding bone, and consequently interfere with the facile expansion of that cavity during the acts of respiration, causing the difficulty of breathing which is so frequent a concomitant of advanced life. At this period, too, the whole osseous system becomes thinner, lighter, and more fragile ; hence the frequency of fractures.

Bone is composed, chemically speaking, of about one-third of animal matter, and of about two-thirds of earthy materials, consisting chiefly of phosphate and carbonate of lime, phosphate of magnesia, etc.

Bones impart character, strength, and solidity to the body, support its various organs, and afford numerous points of attachment to the ligaments which connect and the muscles which invest them.

They are differently shâpen: long and cylindrical, to support weight, to resist violence, and to afford leverage: arched and expanded, to protect important parts beneath and to facilitate expansion; and are variously marked on their surface: with hollows to receive organs, and to articulate one with another: with grooves to transmit vessels: with holes to give passage to nerves, veins, and arteries: and with projections to which muscles, tendons, and ligaments are firmly and immovably fixed.

The human skeleton may be divided into the *head*, the *trunk*, and the *extremities*.

1. *Bones of the Head*.—The head of the human being is placed upon a movable neck, and occupies the highest position of his body—a characteristic which alone suffices to distinguish him from all the other members of the animal kingdom. The head is constituted by the *skull* and the *face*.

(1.) The skull is the bony, vaulted box, containing within its cavity the greater and the lesser brain, the commencement of the spinal cord, numerous arteries, veins, and nerves, and three membranes, which invest the entire contents more or less completely. The bones of the skull are constructed of an outer and an inner table of dense, compact bone, and of an intervening softer structure termed the *diploe*, which is channelled by numerous tubes for venous

blood. The object of this wise provision is, that whilst the external layer may be extensively fractured from blows or other violence, the internal one shall not be implicated, in order to prevent pressure upon the brain and consequent interruption to, or suspension of, its important functions. The skull bones are indissolubly bound together by *sutures*; but in childhood, besides being separated, they are also soft and cartilaginous, so that they overlap each other and permit of diminution of bulk and alteration of shape during parturition.

The size of the skull is proportioned to the bulk of the brain, which, in its turn, is alleged to hold a direct comparative relation to mental capacity.

The bones of the skull are eight in number, viz., the *frontal*, placed in front; the *occipital*, behind and at the base; two *parietal*, at the top and sides; two *temporal*, at the base and sides; the *sphenoid*, partly at each side, partly at the base; and the *ethmoid*, at the root of the nose.

(2.) The face is that portion of the head which contains the chief organs of sense, and is situated before and below the margin of the scalp proper. The bones entering into its formation are fourteen in number, viz., two *nasal*, two *lachrymal*, two *inferior turbinated*, two *malar*, two *palate*, *vomer*, one *inferior* and two *superior maxillary*. Into the sockets of the last three bones, the former constituting the lower, and the latter two the upper jaw, are fixed the *teeth*, which shall alone be specialized.

The teeth are of two sorts, viz., *deciduous* and

*permanent.* The deciduous, milk or temporary teeth, are twenty in number—eight molars, four canine, and eight incisors. They are small and weak in comparison to their successors, and are just suited to the nature of the food which childhood requires. They ought to appear at about the sixth month; by the second or third year the full complement is generally attained.

The permanent teeth begin to replace the others at the sixth or seventh year, and continue appearing up to the age of puberty, when the wisdom-teeth complete the dental apparatus. They are the last to come, and generally the first to go, on account of their imperfect development and the over-crowded state of the jaws.

The permanent teeth consist of thirty-two—sixteen in each jaw—four incisors, two canine, four bicuspid, and six molars. The incisors have long fangs and wedge-like edges to cut the food; the canine and bicuspid have long single fangs, and sharp-pointed crowns to pierce and tear it; the molars are furnished with from one to four fangs and have roughened tuberculated crowns to comminute alimentary materials.

The structure and general arrangement of the teeth correspond, in all animals, with the nature of the food upon which they subsist; and hence we may infer, from the characters of the dental machinery in the human being, that he was destined to appropriate nourishment from both the animal and the vegetable kingdom.

2. *Bones of the Trunk*.—The trunk may be recognized as that portion of the body which, subtracting the limbs, constitutes its great bulk.

It may be viewed *collectively* and *separately*.

(1.) Considered collectively, the trunk is composed of the *vertebræ*, the *ribs*, and the *sternum*.

a. The *vertebræ* form the vertebral column, or spine, and are divided into true and false—the former including seven *cervical* or neck, twelve *dorsal* or back, and five *lumbar* or loin *vertebræ*; whilst the latter comprise five *sacral* and four *coccygeal* *vertebræ*, which contribute to the posterior boundary of the pelvic cavity.

These pieces of bone are bound together by strong ligaments, which, whilst they permit of the requisite degree of motion, prevent any displacement. They are imposed one upon the other, and between their bodies a soft, tough, elastic cushion, called the *inter-vertebral substance*, is interposed, which allows of flexion, and prevents the concussive effects of jolting movements. The long maintenance of the erect posture compresses and thins this material; and hence the body measures about an inch shorter at night than in the morning. In old age, too, it becomes shrivelled and inelastic, causing the stooping form and diminished height of “second childhood.”

b. The *ribs* are the long curved bones which form the bony walls of the chest, protect the lungs lying within from outward violence, and assist in respiration. They are twelve in number on each side, being connected behind to the spine and in front to the

sternum. Man is not deficient of a rib—unless he be single—as the ignorant aver.

c. The sternum, or breast-bone, is flat, thin, and porous, and receives the anterior extremities of the rib.

(2.) Considered separately, according to an arbitrary division, the trunk may be arranged into the *neck* and two cavities, viz., the *thorax* and the *abdomen*.

a. The neck is the slender, movable part of the body which connects the head with the trunk. The head moves upon it in three directions, called the nodding, side, and rotatory motions.

b. The thorax, or chest, is the arched cavity lying between the neck and the belly; constructed of the ribs, sternum, and part of the spinal column; narrow above, broad below; flattened from before backwards; concave within and convex without; and containing the heart and great vessels, the lungs and appendages, the œsophagus, numerous nerves, and a thin delicate membrane called the *pleura*, which lines the inner surface of the walls and invests the viscera of the thorax.

c. The abdomen, or belly, is separated from the chest by a strong muscular partition, termed the *diaphragm*, or midriff, which is largely engaged in carrying on the respiratory process; contains the digestive, the generative, and the urinary organs; is bounded chiefly by muscles and membranes; and is lined by a thin, smooth web of tissue, the *peritoneum*, which, in addition, invests the contents, defends from injury, obviates the effects of concussion, or of false movements,

and exhales moisture, in order to facilitate the gliding of one part upon another.

3. *Bones of the Extremities*.—The extremities, limbs, or members of the body, are the superior and the inferior.

(1.) *The Superior Extremities*.—Each upper limb is divided into—the *scapula*, or blade-bone; the *clavicle*, or collar-bone; the *humerus*, or upper arm-bone; the *radius* and the *ulna*, or lower arm-bones; the *carpus*, or wrist; the *metacarpus*, or hand; and the *phalanges*, or fingers.

(2.) *The Inferior Extremities*.—Each lower member comprises the *pelvis*, which is composed of three bones, viz., the *ischium*, or sitting-bone; the *pubis*, or share-bone; and the *ilium*, or hip-bone; also the *femur*, or thigh-bone; the *patella*, or knee-pan; the *tibia*, or shin-bone; the *fibula*, or clasp-bone; the *tarsus*, or instep-bones; the *metatarsus*, or foot-bones; and lastly, the *phalanges*, or toe-bones.

The skeleton of the full-grown adult is constructed of 246 distinct bones, which may be arranged in the following order:—Head, 8; ear, 6; face, 14; teeth, 32; vertebral column, sacrum, and coccyx, 26; hyoid-bones, sternum, and ribs, 26; upper extremity, 64; lower extremity, 62; sesamoid-bones, 8.

These bones, divested of every tatter of ligament, muscle, or membrane, weigh from nine to twelve pounds.

II. THE MUSCLES.—The muscles are the agents which move the bones, and they are, in their turn, excited to action by nervous influence. They invest

the bones, except the teeth; enclose cavities; defend and protect from outward violence; clothe the ungainly skeleton; and impart grace, beauty, and symmetry to its form. Every muscle has an appointed action, and a definite sphere of duty, from which it is impossible to depart. Thus, that muscle, or set of muscles, which can change the relative position of any part of the body, cannot revert its action, but another, or *antagonist* muscle, or set of muscles, restores to the original condition, because its action is exerted in an opposite direction. Thus the arm is bent at the elbow by the *flexors*, straightened by the *extensors*; the former lie in front of the arm, the latter behind it.

Exercise increases the size, and gives greater tone and power to the muscles. The leg of the ballet-girl, the arm of the blacksmith, and the greater comparative development of one part of the artizan's body, in consequence of its being employed in his trade whilst others are at rest, are familiar examples. On the other hand, inaction and disuse cause them to waste and become powerless.

Muscles are called *voluntary*, when they are under the influence of volition; *involuntary*, when they act altogether, or in great measure, independently of it. The muscles of the heart, stomach, bowels, etc., are of the latter class, and illustrate the distinction.

A piece of muscle, or, as commonly known, flesh, is separable into a number of fibres, or bundles of fibres, placed in collateral order, and invested and bound together by areolar tissue, in which numerous vessels



and nerve-twigs ramify. Aggregations of these fibres form muscles. Muscular fibre is endowed with the property of alternate contraction and relaxation, dependent partly upon an inherent capacity in the tissue itself; but chiefly 'on the application of the nervous stimulus. When a muscle contracts, the fibres composing it become shorter and wider, so that what it loses in length, it gains in thickness.

III. THE NERVOUS SYSTEM.—The nervous system is divided into two portions—the *cerebro-spinal*, and the *sympathetic*.

1. The cerebro-spinal system includes the cerebrum, the cerebellum, the medulla oblongata, the spinal cord, and their nerves.

(1.) The cerebrum, or greater brain, is the large soft mass of nervous tissue, which is enclosed within, and protected from external violence by, the bony skull-box; on the outside of this enclosure, the hairy scalp, and, on the inside, three membranes, are further protective adjuvants. The outermost of these investments within the skull is the *dura mater*; a firm, dense, fibrous membrane, which clothes and supports the brain; keeps the various lobes in their proper positions, by means of intervening partitions; envelopes and protects the nerves as they issue from the numerous holes in the skull; and forms channels called *sinuses*, of which there are sixteen, for currents of impure blood. The next covering is called the *arachnoid*—a thin, semi-transparent web. The third investment is the *pia mater*, the thin and immediate covering of the brain's substance, being copiously

furnished with a net-work of vessels, filled with pure blood, which yields its nutritive portions to regenerate the decay consequent on mental exercise. The brain itself is superficially divided into two symmetrical halves termed *hemispheres*; but at the bottom of the cleft they are connected together by a link of strong, dense, nervous matter. The whole of its external surface is marked by numerous elevations, which are separated from each other by corresponding grooves.

In intimate structure, the brain is composed of an external, grey, *cineritious*, or *cortical* layer, in which all the mental processes are presumed to occur; and of an internal, white, *medullary* portion, which serves the purposes of conduction.

(2.) The cerebellum, or little brain, is seven or eight times less than the cerebrum, and is situated under its posterior portion. The cerebellum is divided into right and left lobes, and is marked on its surface by convolutions.

(3.) The medulla oblongata is continuous above with the brain, and below with the spinal marrow; thus forming the unitive bond between both.

(4.) The spinal cord, or marrow, lies in the bony canal formed by the super-imposition of the bones of the spine; is connected above with the brain; whilst numerous nerves of motion and of sensation issue from it throughout its entire length.

(5.) The nerves of the cerebro-spinal system are divided into *cerebral*, from the brain; and *spinal*, from the cord.

*a.* The cerebral nerves consist of eight pairs. They are—the first, or olfactory, which are distributed to the nose, and induce it with the special sense of smell; the second, or optic, upon which the rays of light are received and the impression conducted to the brain; the third, or motor—the fourth, or pathetic—and the sixth, or abducentes, which are all distributed to the muscles of the eyeballs, and bestow upon them the power of motion; the fifth, or trigemini, compound in function, because they contain nervous fibres of sensation and of motion, are distributed to the tongue, palate, teeth, etc.; the seventh, consist of the portio mollis and the portio dura—they have different functions; the former endows with the special sense of hearing; the latter, with power of motion to all the facial muscles; and, lastly, the eighth, which comprise the glosso-pharyngeal, spinal accessory, and pneumogastric nerves.

*b.* The spinal nerves arise from the cord, and are thirty-one pairs in number, viz., eight cervical, twelve dorsal, five lumbar, and six sacral. They each arise by two roots from different parts of the cord, those issuing from the front being for motion, those from behind, for sensation.

The entire cerebro-spinal system, inclusive of the cerebrum, the cerebellum, the medulla oblongata, the spinal cord, and the numerous nerves which constitute the cerebral and spinal series, minister to the functions of animal life, in contradistinction to the sympathetic system, which presides over those of organic life. Each portion has a different function. The brain is generally

regarded as the instrument and seat of the mind ; but this is merely a presumption. The nature of the immaterial principle within us cannot be divined in our present existence ; nor can we ever ascertain in what part of our bodies it is located. These matters are beyond our ken. The brain, however, is that part of the body which receives all the impressions made on the nerves by outward agencies ; and the source of volition to those organs which are under the government of the will. The spinal cord is the instrument of motor and sensory power.

2. The sympathetic system is represented by numerous masses of grey nervous matter, called ganglions, which, with their connecting branches, extend from the skull to the lower part of the vertebral column. All the internal organs receive branches of nerves from this system, whilst the cerebro-spinal branches communicate with it in different places. This division presides over the functions of organic life ; those, namely, concerned in nutrition, secretion, and the various co-ordinate movements connected therewith, which occur independently of the will or of consciousness.

## II. VITAL ORGANS.

Under this group may be included the organs and the functions of *digestion*, *circulation*, *respiration*, and *secretion*.

I. DIGESTION.—Digestion, in its widest acceptance, is the process by which animals receive into, and

prepare within, their bodies, certain materials derived from the animal and the vegetable kingdom, which are essential to their existence. The constituent actions of digestion are, in successive order, *prehension, mastication, insalivation, deglutition, chymification, chylification, and defecation.*

1. *Prehension*.—Prehension, or the grasping of food, is effected in man by the hand, which has the ability of opposing the thumb to the other fingers' ends. No other animal is so gifted. In civilized society, various instruments are used, adapted to the hand, for the purpose of carrying the food to the mouth, where they are seized by the lips and the teeth, which have, in all cases, a subordinate prehensible action. Fluids are introduced into the mouth also by mechanical contrivances, but instead of being grasped, they fall into it by their own gravity. In other instances they are sucked in by a peculiar action of the tongue, cheeks, and lips.

2. *Mastication*.—Mastication, or the operation of chewing solid food, breaking it into small fragments, and thoroughly mixing it with the saliva, is effected chiefly by the mechanical agency of the teeth. The morsel of food is placed between the upper and the lower range of teeth, by the combined action of the tongue, lips, and cheeks, being cut by the incisors, torn by the cuspids, and ground by the molars. The teeth must be regarded as passive instruments in the operation—the upper jaw being fixed, and the lower one forming a lever with upward motion; whilst muscles, of very considerable strength and power, are the true

active agents. The movements between the two jaws are upward and downward, forward and backward, and from side to side, so that the food is submitted to the individual action of the three kinds of teeth.

3. *Insalivation*.—Insalivation signifies the admixture of saliva with the food, during the manducation of the latter.

Saliva is composed of water, chloride of sodium, sulphate of soda, phosphate of lime, etc., and of a peculiar animal matter termed ptyaline. It is secreted by three pairs of glands, viz., the *sublingual*, placed under the tongue; the *submaxillary*, at the inner surface of the lower jaw; and the *parotid*, in front of and below the ear. In addition to these, other smaller glands in the vicinity of the mouth secrete a tenacious mucus, which facilitates the passage of food down the gullet by coating it with a slippery covering.

The saliva keeps the mouth moist, converts the food into a pulpy mass easily swallowed, dissolves solid substances, and renders them capable of exciting the sense of taste; facilitates the movements of the tongue during articulation and mastication; entangles atmospheric air, whose nitrogen Liebig considers indispensable to digestion; and, lastly, it exerts a peculiar chemical influence upon some kinds of food preparatory to their introduction into the stomach.

4. *Deglutition*.—Deglutition, or the swallowing of the food may be considered under three stages. In the first stage, the tongue, cheeks, and lips collect

the food into a mass, or bolus, which is left upon the upper surface of the tongue near its root; in the second, a series of complicated changes occur in the relative positions of the important structures at the back of the mouth, the effect being to prevent the return of the food through the nostrils, to shut down the lid of the windpipe, and to prepare for the third stage, in which it is carried backwards into the *pharynx*, or funnel-shaped commencement of the *œsophagus* or gullet; lastly, the muscles of the latter tube grasp it, and carry it down into the stomach, independently of the will.

5. *Chymification*.—Chymification is the process of conversion of food into chyme, the true digestive action taking place in the stomach. The *stomach* is a large membranous bag lying across the upper, and chiefly the left, side of the abdomen, constructed of three coats—an external, or *peritoneal*; an internal, or *villous*, which is soft, velvety, and furnished with blood-vessels; and an intermediate, or *muscular*. It has a superior opening, or *cardia*, placed at the left side, where the gullet ends; and an inferior, or *pylorus*, towards the right, where the intestine begins. Its functions are, the reception of the food, and the secretion of *gastric juice*. This fluid is composed of water, various salts of potash, lime, soda, etc., lactic acid, and a peculiar animal principle called pepsine, which is the immediate digestive agent. In physical characters, the gastric juice is limpid, transparent, inodorous, saltish, and slightly acid to the taste. It possesses great solvent properties, and quickly dissolves the

food, that has already undergone the preparatory processes already mentioned; it has also an antiseptic action, and thus checks putrefaction by virtue of its free acid. Solid substances previously reduced to a pulp are at once acted upon; but soups and other liquid foods have their fluid portions first absorbed by the stomach, so that the solvent powers of the juice may not be impaired by dilution. The quantity of gastric juice secreted is exactly proportioned to that amount of food which is just sufficient to supply the requirements of the body; therefore, if more than the proper complement be taken it remains in the stomach undigested, becomes subject to the operation of chemical laws excited into action by the temperature and moisture of that organ, and the train of phenomena characteristic of dyspepsia supervene.

The food, then, is intimately mixed with the juice by a peculiar churning action of the stomach, which begins at its left large end, spreads through its body, and ends near the pyloric orifice, in order to effect the disintegration and solution of the particles composing the alimentary substance. The result is *chyme*—a pulpy, uniform, greyish mass. This is permitted to pass through a valve in the pylorus, into the intestines, but unless the chyme is thoroughly perfected the valve closes on the indigested matter, and retains it in the stomach to undergo further reduction. In this way an ordinary meal is reduced, dissolved, and chymified, in from three to four hours as a general rule; but exceptions occur from various circumstances, such as the amount, nature, state of division, solidity,



or liquidity of the food; the capacity and power of the stomach; the time of taking a meal; the quantity of saliva; and the general condition of the system.

6. *Chylification*.—Chylification, or the process of conversion of the chyme into chyle, occurs in the *duodenum*, or first portion of the intestine, and is effected by the admixture of *pancreatic juice* and *bile*. By the agency of bile, the chyme is separated into a nutritious portion (chyle), and a non-nutritious portion (excrement), which is discharged from the body as useless. The former is absorbed by an immense number of small projections called *villi*, which stud the inner surface of the intestine, whence it is conveyed through lacteal vessels and mesenteric glands to the thoracic duct. The latter is propelled through the bowels by a peculiar movement, called the peristaltic action. It is delayed in the large intestine and exposed to the action of an acid secretion for the purpose of undergoing a supplementary digestion, in order to yield up any nutritive portions that may have escaped absorption by the villi. Lower down it becomes more solid and inspissated from loss of its fluids, and, as decomposition speedily ensues, it assumes the true fæcal character.

7. *Defecation*.—Defecation is the act of ejecting the non-nutritious portions of the food and the intestinal excretions through the lower orifice of the bowels, in obedience to a call consequent on their accumulation in the rectum.

Alimentary substances, which the foregoing pro-

cesses are concerned in digesting, are divided into two classes—*nitrogenized* and *non-nitrogenized*.

(1.) \*Nitrogenized materials consist of albumen, fibrin, and caseine derived from vegetables; and of blood and flesh from animals. They become converted into blood and re-form the worn out tissues.

(2.) Non-nitrogenized materials consist of fat, starch, gum, sugar, etc. They are incapable of being transformed into blood, and are burnt up within the body, to support respiration, and to generate and maintain animal heat.

II. CIRCULATION.—The circulatory organs include those for the *chyle* and *lymph*, and those for the *blood*.

1. The chyle and the lymph vessels.

The nutritive portion of the food having been selected by the numerous projections, or villi, on the inner surface of the mucous membrane of the intestine, is conveyed along small vessels, or *lacteals*, which, after uniting into larger trunks, pass through the so-called *mesenteric glands*, between the folds of the peritonæum, designated the *mesentery*, and ultimately pour their contents, by three or four large canals, into the lower portion of the *thoracic duct*. This is the point of junction of the lacteal or chyle vessels, and of the *lymphatic* or *lymph vessels*. The latter set are distributed over the whole body, and on their way to the common reservoir pass through so-called glands in the groin, armpits, etc. Their office is to absorb and carry into the general circulation those organized materials deposited in superabundant amount to repair

the decay of the tissues, or those that are replaced by fresher depositions from the blood. Some portions are inimical to life, or are purely excrementitious; they are, therefore, eliminated from the body by various processes. Others, however, that can be applied to ulterior purposes, are mixed with the chyle in the receptacle of the thoracic duct. Ascending this canal through the cavity of the abdomen and the chest, and lying upon the spinal column, they become capable of spontaneous coagulation, and assume a reddish hue, thus gradually approaching in character to the blood. They are ultimately delivered into the general circulation of blood at the point of junction of the left subclavian with the left jugular vein, whose two currents commingle them thoroughly with the gory tide. This stream, containing imperfectly formed and impure blood, is further admixed by the action of the right auricle, passes into the right ventricle, which propels into both lungs, where the action of the atmospheric air completes the transformation of the chyle and lymph, into a bright red nutritive fluid essential to life.

2. The circulatory organs of the blood comprise :—  
(1.) *Arteries*, arising from the left side of the heart, for the conveyance of pure blood; they are dense in structure, encircled by a coat of muscular tissue, pulsate during life, and retain the cylindrical form when empty, after death. (2.) *Veins* are the membranous, non-pulsating conduits, furnished with valves, which return the impure blood to the right division of the heart. (3.) *Capillaries* are the small, hair-like tubes, communicating, on the one hand, with arteries, and,

on the other, with veins, in which all the vital processes of the animal economy occur. (4.) The heart.

The heart is the conical, hollow, muscular organ situate in the thorax, and the primary cause of the blood's movement. A vertical partition divides it into two halves, which are again sub-divided by a transverse boundary; hence the heart consists of four compartments, of which the upper ones are called the *auricles*, and the lower the *ventricles*. Each auricle communicates with its corresponding ventricle through an opening in the transverse division. Arteries arise from, and veins end in, the heart; and by its alternate contraction and dilatation, the blood is propelled through the former and returned by the latter. At each contraction its tip is tilted against the space between the sixth and seventh ribs, and about two inches nearer the medial line of the body than the nipple; where its pulsations, averaging seventy per minute, may be distinctly felt by the hand; or the simultaneous beating of the radial artery, termed *the pulse*, may be counted at the wrist.

The heart has two functions, which are carried on simultaneously.

(1.) The left side of the heart, consisting of auricle and corresponding ventricle, is engaged in the *great systemic or general circulation*, in which the auricle receives the purified and nourishing blood from the lungs, and the ventricle propels it into the *aorta*, whence it is distributed by off-shooting arteries into all parts of the body, to be returned by the veins to the right auricle, much changed in physical characters

and chemical composition. When the heart contracts, pure blood is leaving it ; when it dilates, impure blood is received from the veins.

(2.) The right side, auricle and ventricle, carries on the *little or pulmonary circulation* in which the impure blood poured by the veins into the right auricle flows into the right ventricle, whose contraction propels it into arteries leading to both lungs, where it is submitted to the renovating influence of the air. Having recovered its health-giving properties, it returns to the left auricle at the next dilatation of the heart, and, having passed into the corresponding ventricle, is again propelled by its contraction over the whole body.

This apparatus, then, is for the general diffusion of blood. *Blood*, whilst circulating, is a uniform, viscid fluid, consisting of *liquor sanguinis* and *blood corpuscles*.

*a.* *Liquor sanguinis* consists of *serum* holding *fibrin* in solution. It is poured out from the vessels to glue the sides of wounds together ; forms a bag which circumscribes abscesses ; and is the material of regenerating and reforming all the tissues.

*b.* The blood corpuscles are mixed with some colourless ones, but the majority are red, and impart to the blood its florid hue. The colour is said to depend upon the presence of iron, which acts the part of a carrier of oxygen from the lungs to the tissues.

When the blood is withdrawn from the body and allowed to cool, *vapour* of a peculiar odour exhales

from its surface, and it *coagulates*, or separates into a solid portion called the *clot*, leaving a fluid called *serum*.

*a.* The clot consists of coagulated fibrin, entangled corpuscles, some serum, and salts.

*b.* The serum is a pale, yellowish fluid, composed chiefly of soluble albumen; by the application of heat it coagulates and leaves another fluid, *serosity*, which contains various salts soluble in the blood.

Blood is endowed with an independent life-principle, and its quantity is estimated at thirty-four and a-half pounds in the male, and twenty-six pounds in the female. Blood is of two kinds—*arterial* and *venous*.

*a.* Arterial blood flows in arteries; is of a florid red colour; contains more fibrin and oxygen than venous blood; stimulates the brain and the other tissues; contains elaborated chyle, derived from the metamorphosis of aliments; is the true nutritive fluid, containing within itself every material requisite for the preservation of the body; and supplies the materials for the secretion of certain fluids—as milk, saliva, gastric juice—which serve ulterior, special, and indispensable purposes.

*b.* Venous blood, on the other hand, runs in veins; is of a dark purplish colour; exercises a sedative effect on all the tissues; contains a considerable quantity of carbonaceous matter, derived from the worn-out tissues, and from non-nitrogenized alimentary principles; and, lastly, is not nutritious, because, firstly, a portion of it contains non-elaborated chyle; and, secondly, its great mass is contaminated with certain deleterious principles resulting from the pro-

cesses of nutrition, which are removed from the body by the various organs of excretion.

III. RESPIRATION.—The *apparatus*, the *action*, and the *agent* will be consecutively considered.

1. *The Apparatus*.—The organs engaged in the respiratory process are ~~numerous~~ *muscles*, which directly or indirectly influence the dimensions of the thorax ; but chiefly the *trachea* and the *lungs*.

(1.) The trachea, or windpipe, opens into the pharynx, or back part of the mouth, so that air inhaled either by the latter orifice, or by the nose, finds admittance into the lungs through its aperture. The upper part is called the *larynx*, which is the vocal organ ; its orifice is called the *glottis*, through which no food can pass in consequence of the lid-like action of the *epiglottis*, covering it over during the act of swallowing. But as this valve lifts up during laughing or speaking, particles of food, in such cases, intrude into the windpipe, and excite considerable coughing in order to effect their expulsion. The trachea is composed, below the larynx, of about twenty cartilaginous rings, imperfect behind, and connected together by membrane. At its lower portion it bifurcates into two branches, which, under the name of *bronchial tubes*, divide and subdivide into numerous minute ramifications throughout the substance of the lung. They terminate ultimately in an *air-cell*, which is lined by mucous membrane and surrounded by a network of capillary blood-vessels. Here the changes attendant on respiration take place.

(2.) The right and left lobes of the lung are conical

in shape; yellowish-grey in colour; spongy and elastic in texture; fill the cavity of the thorax in conjunction with the heart, and have their surfaces covered by the pleura, which is thence reflected on to the inner side of the chest. They expand and contract in correspondence with the movements of the chest, whose dimensions are diminished or increased by muscular agencies. When the chest enlarges, the elastic lungs resile from the removed restraint and pressure of the thoracic cavity, and in proportion to the increased space thus procured, so is the quantity of air that fills it up. On the other hand, when the dimensions of the cavity are reduced by muscular agency, the pressure upon the lungs is renewed, and they are emptied of a certain amount of air proportionate to their diminished space and capacity. This alternate action of inhaling (inspiration) and of exhaling (expiration) air constitutes *respiration*, which occurs, on an average, in the young and well-made adult, from eighteen to twenty times per minute. But the entire quantity of air receivable by the lungs is not renewed at every act of breathing, for only about thirteen cubic feet are taken in and expelled at every ordinary respiration; whilst nearly one hundred remain as residual air, and are occasionally displaced and renewed by unconscious or by voluntary actions of deep inspiration and expiration; and also by the forcible expulsions attendant on coughing, sneezing, laughing, crying, etc.

2. *The Action*.—Respiration is subservient to three purposes.



(1.) *To Purify the Blood.*—The venous blood conveyed to the lungs from the right ventricle by the pulmonary arteries contains abundance of carbonaceous matter, derived from food or the waste of tissues; it passes through the mesh-work of vessels around the air-cells, meets with atmospheric air, whose oxygen penetrates through the intervening mucous membrane, combines with the carbon to form carbonic acid, which is ejected in the gaseous state during expiration. The impure venous blood is thus *aerated*, *oxygenated*, or *arterialized* by subtraction of carbon and absorption of oxygen; the change in chemical composition being accompanied by alteration of colour, from dark to bright red.

(2.) *To Generate Animal Heat.*—Combustion, being the union of a combustible body with a supporter of combustion, occurs during the combination of the carbon of venous blood with the oxygen of the atmosphere; this chemical process is accordingly attended with the development of caloric, which is absorbed in a latent condition by the arterial blood, and is set free as sensible heat during the circulation of that fluid in the remote capillary system.

(3.) *To Exhale Water.*—Respiration is the means of absorbing and of exhaling watery vapour. That it is absorbed, follows from the inhalation of air which contains vapour as one of its constituents; that it is exhaled may be proved by expiring into a glass, when the vapour will condense on the sides of the vessel into drops of water, which on analysis yield animal matter. This constant exhalation of water, resulting

from the union of hydrogen in the blood with oxygen in the air, is not always apparent, because the transparency of a warm atmosphere is not impaired by the aqueous particles which are *dissolved* in it; but in a colder air they remain *suspended* in the form of vesicular vapour, giving rise to the appearance of fog or steam.

3. *The Agent*.—The atmosphere, or air, is the elastic fluid or gas which surrounds the earth; it accompanies this planet in its rotation round the sun, and is under the influence of the centrifugal tendency consequent on its revolution; it is computed to reach a height of forty-five miles, terminating, as is supposed, at the point where the diffusive tendency of the gas is counterbalanced by the force of attraction exerted by the earth.

Atmospheric air is composed of twenty-one parts of oxygen, seventy-nine of nitrogen, a trace of carbonic acid, and of ammonia, in tropical climates, where it combines, under the synthetic influence of electricity, with nitric acid to form nitrate of ammonia, which falls with rain to nourish the soil and vegetables. It is also mixed with various extraneous materials.

It has the following relations to man:—

(1.) The oxygen entering into its constitution is the great supporter of respiration, by means of which many changes are wrought essential to life.

(2.) It also furnishes the oxygen to combine with the carbon of venous blood—a chemical action which purifies the blood and evolves caloric.

(3.) It is the great supporter of combustion, both within the body, as has been already said, and without it; for, in the latter case, man resorts, in certain climates and in certain seasons, to the use of materials which can afford him heat.

(4.) Actions of ordinary combustion, independently of that variety of it occurring in the lungs, are frequently accompanied by light, which acts on the organs of vision.

(5.) It is the chief medium of sound, which is brought to the ear in waves or undulations of the air. The philosophical definition of sound is given under the sense of hearing ("The Ear," p. 182).

(6.) It holds in suspension, or in solution, certain watery particles, which the skin and lungs are continually absorbing.

(7.) It is laden with numerous odoriferous particles, or emanations, and is the medium of carrying them into the nasal chambers, where they act on the olfactory nerves and excite the sense of smell.

(8.) Gases, the products of animal and of vegetable decomposition, are mixed up in it; so are particles of dust and other impurities, both of which infect man with disease, or act injuriously upon him in many ways.

(9.) It is dissolved in fluids, and especially in water, which is essential to life.

(10.) It presses upon our bodies with a gravity equal to fifteen pounds in the square inch—in other words, a square column of air, forty-five miles high, weighs fifteen pounds—so that a man of ordinary

stature is computed to sustain an atmospheric pressure of more than 32,000 lbs. No inconvenience results from this enormous burden, for three reasons : firstly, because air being an elastic fluid, its whole pressure is equal to its weight, and that weight presses equally on every part of the surface ; secondly, because air within the body exerts its elastic force, and serves, in a measure, to counterbalance and lighten, as it were, the outward pressure ; and, thirdly, the fluids within the body have an expansive tendency which opposes the atmospheric pressure.

(11.) It diffuses the sun's rays, and by this means adapts light to excite the sensation of vision.

(12.) Its presence is necessary in numerous processes which affect the economy of minerals, vegetables, and animals.

IV. SECRETION.—Secretion signifies the process of separating from the blood certain materials, such as bile, saliva, etc., which differ from it, or any of its constituents, in character and composition. A distinction is drawn between *secretions*, which subserve some ulterior purpose in the economy, and *excretions*, which consist of substances withdrawn from the circulation, and ejected from the body in order to maintain the purity and nutritive properties of the blood.

The limited scope of this work will not permit of a description of the structure of the organs by whose agency these processes are carried on, or of any other than a brief account of the more important secretions.

1. *The Liver*.—The liver secretes bile, which is composed of a considerable quantity of fatty and

other matters, whose ultimate analyses yield a large proportion of carbon, hydrogen, and a smaller percentage of nitrogen and oxygen. It is poured into the first portion of the smaller intestines near the stomach, where it separates alimentary materials into a nutritious and a non-nutritious portion. It is not directly carried out of the system by this channel, for a large quantity of its carbon and hydrogen is absorbed into the general circulation by the coats of the intestines, and is carried to the lungs, where it is finally eliminated by the respiratory process. The liver is, therefore, the instrument of expelling carbon, hydrogen, oxygen, and a small amount of nitrogen from the body.

2. *The Kidneys* secrete urine; their chief office being the excretion of some portions of the liquid and changed solid food taken into the system, and of the greater portion of the materials derived from the disorganization of the tissues. Urine contains water, urea, uric acid, various saline matters, and other substances derived from the blood. Urea and uric acid consist of a considerable quantity of nitrogen and carbon, some oxygen, and a little hydrogen. The urine is, therefore, the means of expelling chiefly nitrogen, and the superabundant aqueous elements of the blood.

3. *The Skin*.—The skin is, in addition to the lungs, the chief means of separating carbon with oxygen from the blood; whilst the exhalation, and, under certain circumstances, the secretion of water in the form of sweat, regulates the animal temperature. Nitrogen is also given off, especially after eating animal food.

4. *The Lungs*.—The lungs excrete carbonic acid, a

large quantity of water, and sometimes a small amount of nitrogen.

Under the excrementitious or injurious matters may be included the urine; the water and carbonic acid from the lungs; the sweat; the menstrual discharge; the secretions of the mucous membranes; the hair, cuticle, and nails; a small portion of bile, milk, and semen. The latter two serve no ulterior purpose in the system producing them; and yet they contain no injurious matters as the other excretions do.

Amongst the true secretions may be mentioned those essential to digestion, as saliva, gastric juice, bile, pancreatic juice, etc.; tears from the lachrymal gland; the water which the kidneys withdraw to wash away the saline excretions of the urine; mucous and various other fluids which lubricate and protect the parts secreting them.

### III.—ORGANS OF THE SENSES.

The senses are five in number, namely, touch, taste, smell, hearing, and sight. By the senses is meant those faculties which enable us to take cognizance of certain bodily conditions, such as the feeling of hunger or of anxiety; and of the general or the special properties of external objects, such as their colour, weight, odour, etc. The instruments employed in these offices are the skin, tongue, mouth, etc., the nose, ear, and eye. Each of these organs is furnished with special nerves, along which the impression produced on them by external objects is con-

veyed to the brain, where the mind is presumed to be excited to the perception of, and belief in, the existence of the cause to which the sensation is due. The organs of the senses, and their special functions, will now be separately described.

I. THE SKIN.—The skin consists of three layers, namely, the *cuticle*, the *rete mucosum*, and the *cutis vera*.

1. The cuticle, epidermis, or scarf-skin, is the outermost layer of the integument, and consists of condensed strata of superimposed scales, which are in constant process of desquamation and replacement from the true skin beneath. It is thickest on the foot-sole, and its growth is accelerated by the constant and unequal pressure exercised by ill-fitting boots, hence corns are produced; it is raised as the blister following burns and scalds; it has no vessels or nerves, and is, therefore, devoid of sensation; it protects the extremities of the nerves, and prevents their sensibilities being too soon blunted.

2. The rete mucosum is the next stratum. It is soft, and contains a peculiar matter called pigment, which imparts to the skin its characteristic colour or complexion. Thus, in the Caucasian race, including all Europeans, this matter is more or less colourless, and the complexion is fair; in the African, or negro race, the skin is of a sable hue; in the American race, copper-coloured; in the Malay race, brown; and in the Mongolian, inclusive of Chinese, yellow or tawny.

3. The cutis vera, dermis, or true skin, presents on its upper surface an immense number of minute

projections, called papillæ, which are most numerous on the tongue and the ends of the fingers. They endow the entire surface of the body with tactile sensation, by virtue of the loop-like ends of the nerves of touch which enter into their formation. On the under surface, the cutis blends with areolar tissue, and is connected by its means to the deeper-seated structures.

The appendages of the skin are—*Nails*, which are regarded as condensed portions of the cuticle, growing from a deep groove in the skin; they enable the hand to seize minute objects, and protect the sensitive finger-ends from injury. *Hairs*, which grow from roots or hair bulbs, placed in depressions in the skin; they are hollow tubes, round, or more or less flattened, and contain a fluid whose different colours determine the various hues of the hair; they obviate the effects of friction in the armpit, and in other places which admit of much motion; in the nose they retard the passage of minute particles of dust, which might otherwise accumulate in the lungs or the windpipe, to the consequent detriment of health. *Sebaceous glands*, placed in the true skin, and secreting an unctuous fluid, which anoints the surface; they are most numerous on the face, in order to obviate the drying and cracking of the skin, induced by exposure to sun and air; hence the oiliness of the negro's skin, which is constantly exposed to the direct rays of a scorching sun. And, lastly, *sudoriferous* or *sweat glands*, which are situated at the lower portion of the dermis; their tortuous ducts pierce all the strata of



the skin, and end on its external surface in open mouths or pores.

The uses of the skin are the following:—To cover and protect the parts beneath; to constitute the organ of touch or feeling, by means of which sensations are experienced regarding those properties of external bodies ascertainable by contact, such as smoothness, roughness, cold, heat, and the like; to eliminate carbon from the body in the form of carbonic acid, the presence of which may be proved by the white powdery covering of carbonate of lime, which results from the immersion of the hand in lime-water; to absorb various fluids and gases; to aid the kidneys in depurating the blood from serosity and salts; and, lastly, to excrete fluid from the cutaneous arteries, in the forms of insensible and sensible perspiration. In the former case, invisible vapour is evolved; in the latter, it is condensed into drops of water which adhere to the skin. The perspiration, speaking generally, moistens the skin, and, accordingly, keeps the epidermis and the nervous papillæ of the cutis vera in the condition best fitted for the purposes of common sensation; whilst, in insensible perspiration, heat is given off from the body in a latent state during the evaporation of the sweat, by which means the injurious consequences attendant on accumulation of caloric are averted, and the body is maintained at an equable temperature.

The skin is continuous at the various orifices of the body—viz., those of the nostrils, the eyes, the ears, the mouth, the anus and the urethra—with the mucous

membrane lining the respiratory, digestive, and genito-urinary organs; it has also an uninterrupted connection, through the apertures on the nipple, with the mucous membrane forming the inner covering of the ducts of the breasts. The mucous membrane is indeed only a complicated infolding of modified skin; and this anatomical relation is well exemplified in the sympathies of disease. Thus, irritation of the mucous membrane not unfrequently occasions an eruption on the skin, known as tooth-rash; whilst, on the other hand, burns, injuries, and suddenly checked perspiration, not seldom induce violent inflammation, or even ulceration, in one or other portion of the two great tracts of mucous membrane.

II. THE TONGUE.—The tongue consists of a mass of *tissue*, mostly of a muscular nature; of three *nerves*, which confer upon it the sense of taste, ordinary sensation, and the power of motion; of numerous *arteries* and *veins*; and of an *investment* analogous in structure to the skin.

The tongue is, after the hand, the most delicate instrument of ordinary sensation; some of its *papillæ* assist in the comminution of food; its peculiar position and mobility enable it to change the form of the mouth, and thus to modify the various vocal sounds which man is capable of uttering; on this account, too, it aids in the thorough mastication, and insalivation of aliments; it is an essential requisite in articulate utterance, by which the thoughts and desires of the human race are expressed and understood; and, lastly, it is the chief organ of the sense of

taste, the tip, sides, and a small part at the back being the only portions of it affected by sapid substances. Other parts of the mouth are endowed to a small degree with the sense of taste. This, then, is the apparatus placed at the entrance of the digestive organs, whose duty it is to take cognizance of substances before they are swallowed, in order to ascertain their acrid or nauseous quality; and their heat, size, smoothness, hardness, or other physical properties, which might exercise an injurious influence upon the stomach; it likewise fixes a standard by which the appetite is, or ought to be, regulated. By taste, is understood the sensation produced by sapid substances when placed in the mouth. For the perfection of this function, two conditions are essential—solubility of the substance, if solid, else it will give rise only to the sensations of touch, following direct contact; and a moist state of the mouth, otherwise taste will not be excited.

III. THE EAR.—The ear is perhaps the most wonderfully constructed piece of workmanship in the body. Its complicated arrangement of bones, muscles, nerves, vessels, membranes, canals, and fluids, warn us not to attempt its description; because it would puzzle, rather than enlighten, the general reader, for whom this part of the work is designed. Thus much, however, may be said, that the *outer ear* collects *sound*, which may be defined as the sensation consequent on the impression made on the organ of hearing, by the vibrations of the atmosphere, set in motion by the temporary agitation of particles of

matter in sonorous bodies; these vibrations are directed along the *auditory canal*, until they impinge against the *tympanic membrane*, or drum of the ear, which, being elastic, acquires a tremulous motion; this motion is transmitted by the small bones in the *internal ear* to the fluid in the *labyrinth*; and, lastly, the expansion of the *auditory nerve* receives the impression thus applied, and conducts it to the brain, where a perception of sound ensues.

IV. THE EYE.—The *globe* of the eye, and its appendages, the *eyelids*, the *lachrymal apparatus*, *blood-vessels*, *nerves*, *muscles*, and other structures, are lodged in the orbit, and constitute the organs of vision.

1. The eyeball, or globe of the eye, is composed of *membranes* and *humours*.

(1.) The membranes of the eye are placed one within the other; they are the *conjunctiva*, the *sclerotica*, the *cornea*, the *choroid*, the *retina*, the *iris*, and other tissues which need not be named.

*a.* The conjunctiva lines the borders and the inner surface of the eyelids, and is thence reflected on to the globe, whose anterior third it covers."

*b.* The sclerotica is the exterior proper envelope of the globe, immediately underneath the conjunctiva. It is a stout, fibrous, resisting membrane, well fitted to protect the important structures below, and to serve as the medium of attachment to the muscles which move the eye. It is convex externally, concave internally; pierced behind by a hole, through which the optic nerve passes, and bevelled at its edges in

front to receive the cornea as a watch does its glass.

c. The cornea is the horny, transparent, convex, and bulging substance forming the anterior fifth of the eyeball, through which the rays of light pass.

d. The choroid, lying between the sclerotica and the retina, is composed of small arteries and veins, united by areolar tissue.

e. The retina is the soft, pulpy, net-like membrane, placed between the choroid and the vitreous humour, consisting chiefly of an expansion of the optic nerve, which receives and transmits the impression produced by the impingement of light.

f. The iris is the circular, muscular, differently-coloured curtain surrounding the *pupil* of the eye, which diminishes or enlarges that aperture, according to the quantity or the intensity of light admitted to the retina beyond. It is hung in a vertical direction, between the cornea and the crystalline lens, dividing this space into two unequal compartments, the *anterior* and the *posterior chambers*, which communicate through the pupil.

g. Each of the humours is enclosed or invested by a membrane peculiar to itself.

(2.) The humours are, the *aqueous*, the *lens*, and the *vitreous*.

a. The aqueous humour is composed, not simply of water, as its name implies, but of albumen mixed with water; it occupies the anterior chamber, which lies between the cornea and the iris, and also the posterior and smaller chamber, between the iris and the lens.

*b.* The crystalline humour, or lens, is the white, transparent, firm, double-convex body, lamellated and dense in the middle, softer at the circumference, and enclosed in a membranous capsule, which is situated at the point of junction of the anterior third, with the two posterior thirds of the eyeball, behind the iris, and embedded in a depression on the front aspect of the vitreous humour. By means of its highly refractive power, it causes the rays of light to converge to a point on the retina, where a perfect image of the external object is formed. The lens is the seat of cataract; its transparency is then impaired, and the rays of light are, in consequence, not transmitted to the retina.

*c.* The vitreous, or glass-like humour, occupies the posterior third of the interior of the eyeball, behind the lens, and is surrounded by a fine, delicate membrane.

2. Of the ocular appendages, those only merit a brief notice in this place which have a protective office. They are the *eyelids* and the *lachrymal gland*.

(1.) The eyelids are composed of skin, hair, muscle, and mucous membrane; they protect the eyeball from outward violence, and the retina from the evil effects of exposure to an intense and brilliant light. The eye has been poetically christened "the window of the mind;" the eyelids are its shutters.

(2.) The lachrymal gland secretes tears—the limpid, inodorous, saltish liquid, which washes the front of the eye and the inside of the eyelids; removes dust, or minute particles of other foreign substances;

moistens the cornea, and prevents its becoming dry and opaque; hinders the adherence of the eyelids to the eyes; facilitates the movements of the lids on the ball; and, lastly, obviates the effects of friction.

Such, then, is a succinct account of the visual apparatus; its function, *vision*; its stimulus, *light*.

*First.* Vision is the faculty of seeing, or the perception of external objects, as regards their colour, position, form, size, etc., derived from an impression made by them, or, more correctly, by the *light* reflected from, or transmitted by them, on the organs of this special sense. A knowledge of their correct forms, true characters, and real distances, cannot, however, be derived from this source; but, in man, the sense of touch materially aids in its acquisition.

*Second.* Two theories as to the nature of light have been broached; the corpuscular of Newton, and the undulatory of Young, the latter of which is the one more generally accepted. According to it, a very subtle and imponderable fluid, or ether, pervades the whole universe, and is thrown into undulations or waves by luminous bodies; this motion is propagated from one particle to another, by which means light is conveyed through the atmosphere, after much the same manner as sound, only at a far greater velocity. The sources of light are the sun, the fixed planets, combustion, electricity, phosphorescents, some processes of crystallization, mechanical friction, etc. Light is essentially necessary to animal and vegetable existence; because, by its influence carbonic acid, a deadly poison, becomes decomposed into carbon and

oxygen, the former of which contributes to the increment of plants; the latter, to the processes of vitality in animals.

V. THE NOSE.—The nose is the prominent, pyramidal-shaped part of the face, composed of skin, cartilages, bones, etc., and consisting of two symmetrical cavities, or *nostrils*, which open in front on the face, and behind in the mouth. Numerous cells, cavities, ducts, and holes open into, or lead from it. The internal surface of the nose is covered by a fine velvety tissue, called the *pituitary membrane*, whose superficies is equal to several square feet; but it occupies only a small space owing to its abundant involutions. The nerves of smell—in numerical order the first, and by special name, the *olfactory*—after issuing from the brain, and piercing the sieve-like plate of the ethmoid bone in the roof of the nose, spread out in numerous filamentous branches upon this membrane. Their upper portion is the most sensitive to the impressions of odours; and hence the air, laden with odoriferous particles, is quickly and forcibly snuffed up. They secrete the *nasal mucus*, which protects the sensitive nerve; diminish the too strong impressions of pungent effluvia; and are, in other ways, essential to perfect olfaction, for, if they do not always possess the same physical characters, the sense of smell is either impaired or lost. The nose is furnished with *hairs*, to impede the passage of foreign substances, held in suspension by the air, into the windpipe and the lungs.

The functions of the nose are—to intonate the



voice in speaking; to permit of inspiration and expiration, independently of the mouth; to add grace and beauty to the facial contour and expression; to act as the drain for the tears that have swept the eyes; and to constitute part of the apparatus engaged in the sense of smell.

Smell, then, may be regarded as the faculty of perceiving certain qualities of bodies, by means of impressions made on the olfactory nerves, which are the essential instruments. This power is stimulated to action by *odours*, which are extremely tenuous particles of matter evolved from almost every body, and floating in the atmosphere. They act most powerfully when in the gaseous state; or when volatile vapour is given off from a substance naturally fluid. Some solids, as musk, yield a tenacious and persistent fragrance, without suffering any appreciable diminution of bulk or loss of weight; in which case it is presumable that the effluvia is owing less to the substance itself, than to a rare vapour resulting from its action on the constituents of the atmosphere. Be this as it may, the air is the common vehicle of all odours, and by its means they are drawn into the nose and impress the olfactory nerves with their characteristic qualities.

## DICTIONARY OF MEDICAL TERMS.

*Abdomen.* The belly.

*Ablution.* The act of cleansing the body by means of water.

*Abortion.* The act of miscarrying, or displacing the young from the womb before the natural period. When the accident occurs prior to the sixth month, it is termed an *abortion*; after this period and before the full time, *premature labour*.

*Abrasion.* A superficial wound of the skin, owing to the removal of a portion of the cuticle.

*Abscess.* A collection of matter in any tissue or organ.

*Absorbents.* Small vessels, called the lacteals and the lymphatics, which imbibe matters from the tissues of the body, and convey them into the general circulation of the blood.

*Absorption.* The process of imbibing certain materials into the vessels of circulation, whether these contain lymph or blood.

*Acid.* A compound (as sulphuric acid) capable of uniting with a base (such as potash) to form a salt (sulphate of potash). Acids have a sour taste, and change the blue colour of certain vegetables to red.

*Adhesion.* The reunion of divided parts by means of a process technically called adhesive inflammation; also, the morbid union of parts not naturally adherent, though contiguous.

*Adipsia.* Absence of thirst.

*Agglutination.* The act of uniting, or the state of being united, by a tenacious or adhesive substance.

*Aggravation.* The increased severity of the symptoms of an existing disease, which is said sometimes to follow the administration of a medicine selected on the principle that "like cures like."

*Alkali.* A body, as opposed to an acid, which possesses a peculiar acrid taste, changes the blue colour of vegetables to green, and that of turmeric to brown.

*Allopathy.* That system of medical practice which attempts

to cure diseases by inducing a condition of the afflicted part different from, or incompatible with, the state which characterizes the original complaint.

*Alternately.* A word used to express the administration of the doses of a medicine in turns, so that each is followed by that one which it succeeds.

*Alveolar.* Containing sockets; as the *alveolar* process of the lower jaw, which contains the teeth.

*Alvine.* Belonging to the excrements of the belly.

*Amaurosis.* A disease characterized by loss or diminution of sight, but without any apparent defect in the eye; and depending on some unhealthy condition of the retina, optic nerve, or brain.

*Amenorrhœa.* Absence of the menses from causes independent of pregnancy and advanced age.

*Anæmia.* A disease in which the blood is deficient of red corpuscles.

*Anasarca.* A collection of watery fluid in the areolar tissue under the skin, causing a pale, soft, inelastic swelling, which leaves a hollow when the point of the finger is pressed upon it.

*Anatomy.* The science and the art which investigate the situation and structure of the different parts of an organized body.

*Ancylosis.* Immobility and stiffness of a joint.

*Angina.* The general designation of quinsy, sore throat, and some other diseased states, attended with difficult respiration.

*Anorexia.* Want of appetite, independent of dislike to food.

*Anterior.* A term employed by anatomists to indicate those parts of the body which are placed in front of others.

*Anthrax.* Carbuncle.

*Antidote.* Any substance which prevents or counteracts the injurious consequences of poisons when admitted into the stomach.

*Anus.* The lower opening of the bowels through which the excrement is discharged.

*Aphonia.* Loss of voice.

*Aphtha.* A disease, recognized by small white ulcers on the tongue, gums, lips, etc., which resemble pieces of curdled milk.

*Apoplexy.* A disease which is recognized by sudden suspension of the brain's functions, and consequent abolition of voluntary motion and sense.

*Apparatus.* A complete set of instruments for the performance of one common purpose; as the digestive *apparatus*, consisting of teeth, stomach, liver, bowels, etc.

*Apyrexia.* The period of absence or of intermission of fever.

*Areolar tissue.* A membrane of meshwork, containing an immense number of interstices, which communicates with, and invests and connects, all the parts of the body together.

• *Arthritis.* Gout.

*Artery.* A dilatable and contractible tube carrying pure blood.

*Articular.* Pertaining to joints; as *articular* rheumatism.

*Ascaris*, plural *Ascarides*.• A genus of round worms which have thin, tapering ends, and inhabit the bowels.

*Ascites.* Dropsy of the belly; a collection of water, which gives rise to a tense, elastic, fluctuating enlargement of that cavity.

*Asthenic.* A term applied to those diseases which are characterized by loss of strength.

*Astringent.* A medicine which checks profuse discharges, contracts the parts to which it is immediately applied, coagulates the animal fluids, and strengthens and invigorates the solids.

*Atmosphere.* The fluid, consisting of air, watery vapour, certain gases, and particles of matter, which surrounds the earth.

*Atony.* Want of tone, or defect in muscular power.

*Atrophy.* A wasting of the body from defective assimilation of the food.

*Attenuation.* The condition of a body whose particles are finely broken and subtilized.

*Auscultation.* The method of determining diseases, particularly of the lungs and the heart, and of diagnosing pregnancy, by the detection of unnatural or non-permanent sounds when the ear is directly, or by the instrumentality of the stethoscope, applied to the surface of the cavity through whose walls these sounds are transmitted.

*Bandage.* A roller of cloth used for several purposes. (See page 71.)

*Bilious.* Affected by bile.

*Biliary.* Belonging to the bile.

*Blepharitis.* Inflammation of the eyelids.

*Borborygmus.* Rumbling of flatus or wind in the bowels.

*Bronchial tubes.* The small ramifications of the windpipe through the lungs.

*Bronchitis.* Inflammation of the mucous membrane which lines the inside of the air-tubes.

• *Bulimy.* A disease in which the chief symptom is a constant and insatiable appetite.

*Cadaverous.* Death-like, resembling the dead human body.

*Canthus.* The part at the inner angle of the eye, next to the nose.

*Carcinoma.* Cancer.

*Cardialgia.* A violent sensation of heat in the stomach, and rising into the gullet.

*Carditis.* Inflammation of the heart.

*Caries.* Death of bone-structure.

*Cartilage.* Gristle.

*Catamenia.* The monthly courses of the female.

*Cataract.* Opacity of the lens or of its capsule, which interferes with the transmission of the rays of light, and thereby causes partial or total blindness.

*Catarrh.* A cold or disease characterized by the symptoms of fever, and by a copious mucous secretion from the nose, throat, and air-passages.

*Catarrhal ophthalmia.* An inflammation of the first covering of the eyeball, produced by, or associated with, cold.

*Cavity.* A hollow in the body for the reception of some part.

*Cellular.* Consisting of cells.

*Cellular tissue.* (See *Areolar tissue*.)

*Cephalalgia.* Headache.

*Cephalic.* Belonging to the head.

*Cerebellum.* The little brain.

*Cerebral.* Pertaining to the brain.

*Cervical.* Belonging to the neck.

*Characteristics.* The features or marks which serve to distinguish one thing from another.

*Charlatan.* A talking, vain, empty boaster, who arrogates to himself the possession of more skill than he commands.

*Chlorosis.* A disease of the female, recognized by full or greenish complexion, debility, palpitation, etc.

*Chorea.* St. Vitus's dance.

*Chronic.* Disease of slow progress and long duration.

*Chyle.* The milk-like fluid absorbed by the lacteal vessels.

*Chyme.* The food after the stomach has acted on it.

*Cicatrix.* The white, hard elevation of skin which is left after the healing of a wound.

*Circulation.* The act of moving in a course, so that the moving body returns to the part which it left; as the *circulation* of the blood.

*Circumscribed.* To be enclosed within a certain boundary or limit.

*Clonic spasm.* The alternate contraction and relaxation of muscles in regular order and quick succession; as in falling sickness.

*Coagulum*, pl. *Coagula*. A clot of blood.

*Cæcum*. A portion of the small intestines.

*Colic*. Gripes, or violent pain in the bowels.

*Collapse*. Sinking of the vital powers.

• *Colliquative*. Profuse and morbid discharge of the animal fluids.

*Coma*. Sleepiness.

*Comatose*. Disposed to sleep in consequence of some disease.

*Combustion*. The union of a combustible body with a supporter of combustion.

*Compress*. A piece of linen folded in several layers, used to cover dressings, or to stanch bleeding, with the aid of bandages.

*Concussion*. The shock produced by two bodies coming into violent collision.

• *Congenital*. That which belongs to a person from his birth.

*Congestion*. A preternatural accumulation of blood in any part.

*Conjunctiva*. The most superficial covering of the eye.

*Constipation*. Defective excretion from the intestines, whilst the excrement is hardened and fills the bowel.

*Contagion*. The communication of a disease by contact, through the instrumentality of matter emanating from a diseased person and received by a healthy one.

*Convalescence*. The process of gradual and imperceptible recovery of health and strength after illness.

*Cornea*. The transparent, bulging, watch-glass like front of the eye.

*Corporeal*. Material, as opposed to spiritual ; as the corporeal frame.

*Corrosive*. Substances which gradually wear away the particles of matter, whether organic or inorganic, to which they are applied.

*Cortical*. Belonging to the outer covering ; as the *cortical* part of the brain.

*Coryza*. Cold in the head.

*Coxalgia*. Pain in the hip-joint.

*Cranium*. The skull.

*Crepitation*. The crackling sound produced by moving the ends of broken bones ; by pressing the areolar tissue filled with air, and by the passage of air through fluids.

*Crisis*. That important phenomena of a disease characterized generally by some evacuation, by which the safety or the danger of the patient may be judged of.

*Cutaneous*. Belonging to the skin ; as a *cutaneous* disease.

*Cystitis*. Inflammation of the bladder.

*Debility.* General weakness of the body.

*Deciduous.* Literally, *falling*; a term applied to the temporary teeth of childhood.

*Defecation.* The act of passing stools.

*Deglutition.* The act of swallowing.

*Delirium.* Disordered state of the intellect, in which ideas are at variance with truth and reality.

*Dentition.* The process of cutting teeth in infancy.

*Depletion.* The act of lessening the quantity of blood in the vessels by the operation of blood-letting.

*Depurating.* Freeing from impurities.

*Dermis.* The true, as distinguished from the scarf, skin.

*Desquamation.* Separation of the cuticle in small scales.

*Development.* The changes which an organized body undergoes from its beginning to its maturity.

*Diagnosis.* The art of distinguishing one disease from another.

*Diaphragm.* The muscle which divides the chest from the belly.

*Diarrhœa.* Looseness of the bowels.

*Diatheasis.* Habit of body.

*Digestion.* The operation of receiving and preparing food to fit it to nourish the body.

*Dilution.* The act of rendering more liquid; or the degree of subdivision of particles of a medicinal body.

*Disinfectants.* Substances which purify from infectious matters.

*Dissection.* The operation of separating the constituent parts of an organized body, in order to examine their structure and uses.

*Dorsal region.* In the region of the back.

*Duodenum.* The twelve-inch or first portion of the bowel.

*Dura mater.* The outermost investment of the brain.

*Dynamic.* Pertaining to power or force.

*Dysentery.* Bloody flux.

*Dyspepsia.* Indigestion.

*Dyspnœa.* Difficulty of breathing.

*Dysury.* Difficulty in voiding the urine.

*Effluvium*, pl. *Effluvia*. The exhalation from bodies.

*Elaboration.* The perfected condition, after successive operations of improvement.

*Elastic.* The property of matter by which, on the removal of pressure, a body regains the original condition, which that pressure disturbed.

*Emaciation.* The condition of being reduced in flesh.

*Emanation.* That which issues from any body; effluvium, etc.

*Emetic.* A medicine which excites vomiting.

*Encephalitis.* Inflammation of the brain and of its membranes.

*Endemic.* A disease limited to a certain country or district, and therefore originating from local causes.

*Enema.* A glyster.

*Ephemeral.* Existing for a day.

*Epidemic.* Diseases, as influenza, etc., which attack many people at the same time, in the same place, and, after having raged for a certain period, disappear.

*Epigastrium.* The region of the upper and front part of the belly.

*Epilepsy.* Falling sickness.

*Epistaxis.* Bleeding from the nose.

*Eructations.* Belchings of wind from the stomach.

*Erysipelas.* St. Anthony's fire.

*Evacuation.* Discharges by the bowels, bladder, or by other natural outlets.

*Exacerbation.* The periodical increase of such fevers as remit in severity but do not altogether cease.

*Exanthema.* An eruptive disease attended with fever.

*Excretion.* A separation, by means of glands, of some matter from the blood, which is directly voided from the body as either useless or injurious.

*Exhalation.* That which is emitted in the form of vapour, either visible or invisible.

*Exhaustion.* Deprivation of strength.

*Exhilaration.* A condition of cheerful spirits.

*Expectoration.* The act of discharging phlegm, or other secretion, from the lungs.

*Expulsion.* The act of driving, or the state of being driven out or expelled.

*Fæces.* Excrement.

*Farina.* The gluten, starch, and mucilage, constituting the flour or meal which is left after the grinding and sifting of wheat and other seeds.

*Fauces.* The throat.

*Febrile.* Belonging to fever.

*Femur.* The thigh-bone.

*Fetor.* Stench.

*Fibrin.* One of the proximate principles which exist in both animals and vegetables.



*Fistula.* A narrow, deep, hard-sided ulcer, arising generally from abscesses.

*Flatulence.* Windiness in the stomach and bowels.

*Flatus.* Wind.

*Fetus.* A name given to a young animal after its parts are formed, and until its birth.

*Foment.* To bathe with warm water.

*Fomentation.* The application of lotions, or of hot water.

*Friction.* The rubbing together of the surfaces of two bodies.

*Function.* The office, or action, of any particular organ of the body.

*Functional.* Relating to the action of a particular organ.

*Furunculus.* A boil.

*Ganglion.* A small enlargement on some nerve.

*Gangrene.* Mortification of a part of a living body.

*Gastralgia.* Pain in the stomach.

*Gastritis.* Inflammation of the stomach.

*Gestation.* Pregnancy.

*Gland.* A body copiously furnished with blood-vessels which secretes some fluid from the blood.

*Globule.* A form in which the homœopathic medicines are prepared.

*Glossitis.* Inflammation of the tongue.

*Glottis.* The upper orifice of the windpipe.

*Granulations.* The small fleshy, grain-like bodies on wounds and ulcers, which repair breaches of the surface.

*Gullet.* The passage from the mouth to the stomach for the food.

*Hæmatemesis.* Vomiting of blood.

*Hæmoptysis.* Spitting of blood from the lungs.

*Hæmorrhoids.* Piles.

*Hectic.* A fever characterized by exacerbation and by remission, and attended with increase of fever towards evening and profuse sweat at night.

*Helminthiasis.* Worm disease.

*Hepatitis.* Inflammation of the liver.

*Hepatization.* The liver-like condensation of texture resulting from inflammation.

*Hereditary.* That which has been, or may be, transmitted from parent to offspring.

*Hernia.* The protrusion of any viscus from its natural cavity, applied chiefly to displacement of the bowel.

*Hydrocephalus.* Dropsy of the head.

*Hydropathy.* A mode of treating diseases by the copious internal and external use of pure cold water.

*Hygiene.* That department of medicine which treats of the preservation of health and of the means to be employed.

*Hypogastrium.* The middle portion of the lower region of the belly.

*Hypochondria.* The sides of the belly under the false ribs and on each side of the epigastrium.

*Hypochondriasis*, adj. *Hypochondriacal.* A disease characterized by derangement of the digestive apparatus, and by sensibility and perversion of the nervous functions.

*Hysteria.* A disease recognized by convulsive struggling, sense of suffocation, rumbling in the belly, etc.

*Homœopathy.* That method of treating diseases by the administration of a medicine which is capable of producing in healthy individuals symptoms similar to those of the disease which it is given to cure.

*Hordeolum.* Sty.

*Ichor.* A thin, watery running from ulcers and wounds.

*Icterus.* Jaundice.

*Idiopathic.* Indicative of an original disease.

*Idiosyncrasy.* Individual peculiarity.

*Ilium.* The haunch-bone.

*Incarcerate.* To confine.

*Incubus.* The nightmare.

*Indication.* A symptom of disease by which the selection of a suitable remedy is governed.

*Infection.* The communication of disease by effluvia in the air.

*Infiltration.* The entering of a fluid through the interstices of a body.

*Infinitesimal.* An indefinitely small quantity of matter.

*Ingesta.* The food taken into the stomach.

*Insanity.* Derangement of intellect.

*Inspiration.* The act of drawing air into the lungs.

*Inspissated.* Rendered thicker by subtraction of liquid.

*Integument.* The natural covering of any part of the body.

*Iris.* The moveable curtain within the eye which widens or narrows the pupil to admit or to exclude the rays of light.

• *Irritability.* That property of muscular fibre by which it is capable of alternately contracting and relaxing on the application of a stimulus without conscious action.

*Ischium.* The bone on which we sit.

*Ischuria.* Suppression of urine.

*Lachrymation.* The act of shedding tears.

*Lactation.* The act of giving suck.

*Laryngeal.* Belonging to the larynx.

*Laryngitis.* Inflammation of the larynx.

*Larynx.* The upper part of the windpipe.

*Latent.* Hidden or concealed.

*Lesion.* An injury.

*Lesion organic.* Structural injury.

*Leuco-phlegmatic.* A dropsical condition of the body attended with pale, bloated skin.

*Leucorrhœa.* The whites.

*Ligament.* A strong tendinous substance which connects one bone to another.

*Lobe.* A division of the lungs, liver, brain, etc.

*Lochea.* The discharge from the womb after labour.

*Lotion.* An external application or wash.

*Lumbago.* A rheumatic affection of the muscles of the loins.

*Lumbar.* Belonging to the loins.

*Lumbricus.* The round or earth-worm.

*Lunatic.* An insane person, whose derangement is supposed to be influenced by the change of the moon.

*Luxation.* Dislocating a joint from its proper place.

*Lymphatics.* The vessels which carry lymph.

*Mamma.* The breast.

*Mania.* Madness.

*Marasmus.* A wasting of the body without any apparent cause; often, however, depending on disease of the mesenteric glands.

*Materia medica.* That branch of medicine which investigates the nature and action of substances possessed of curative properties.

*Medicine.* A substance that is given to cure or to relieve disease.

*Meibomian glands.* Small glands on the edges of the eye-lids.

*Melancholy.* Deranged mind.

*Membrane.* A thin, white network of fibres, which serves as a covering or investment.

*Menorrhagia.* Immoderate menstrual discharge.

*Menstrual flux.* The monthly discharge.

*Menstruation.* The function of the monthly discharge of females.

*Metastasis.* The translation of disease from one part to another.

*Miasm.* The fine, noxious particles of putrefying bodies which float in the air.

*Micturition.* The act of passing water.

*Morbus coxarius.* Hip-joint disease.

*Mother tinctures.* The concentrated solution of a medicinal substance.

*Mucilage.* One of the proximate principles of vegetables, or a solution of gum in water.

*Mucous membrane.* The lining of cavities which open externally.

*Mucus.* The secretion of the mucous membrane.

*Narcotic.* A substance which produces sleep and stupor.

*Nasal.* Pertaining to the nose.

*Nasal cartilage.* The cartilage of the nose.

*Nates.* The buttocks.

*Nausea.* Sickness at the stomach, attended with disposition to vomit.

*Nephritis.* Inflammation of the kidney.

*Neuralgia.* Pain in a nerve.

*Neuralgia facialis.* Faceache in a nerve.

*Nodosities.* Knot-like swellings.

*Notalgia.* Pain in the loins.

*Obesity.* Preternatural deposition of fat.

*Occipital.* Belonging to the back part of the head.

*Occiput.* The back part of the head.

*Odontalgia.* Toothache.

*Edema.* Dropsical swelling.

*Olfaction.* The act of smelling.

*Omentum.* Folds of peritonæum lying in front of the bowels.

*Ophthalmia.* Inflammation of the conjunctiva.

*Orchitis.* Inflammation of the testicle.

*Ossification.* The process of conversion into bone.

*Os uteri.* The mouth of the womb.

*Otalgia.* Earache.

*Otitis.* Inflammation of the ear.

*Otorrhœa.* Discharge from the ear.

*Ozæna.* Ulcer in the nose.

*Palpitation.* A preternatural beating of the heart.

*Pancreas.* A gland situated between the lower part of the stomach and the lumbar vertebræ.

*Paralysis.* Palsy.

*Paraplegia.* Palsy of the lower limbs.

*Parenchyma.* The substance of organs.

*Parotitis.* Inflammation of the parotid gland.

*Paroxysm.* A fit of any disease.

*Parturition.* The process of labour.

*Pathogenetic.* Producing disease.

*Pathology.* That branch of medicine which treats of the causes, symptoms, and nature of disease.

*Pathognomic.* That character by which a disease may be distinguished from any other.

*Pectoral.* Pertaining to the chest.

*Pelvis.* The basin-like cavity which forms the lower part of the belly.

*Percussion.* The act of striking the walls of cavities to elicit sounds.

*Peritonæum.* The serous membrane which lines the cavity of the belly, and invests its contents.

*Periosteum.* The delicate investment of bones.

*Peritonitis.* Inflammation of the peritonæum.

*Perspiration.* The watery secretion of the skin.

*Pertussis.* Hooping-cough.

*Petechiæ.* Purplish spots.

*Phagedæna.* Eating ulcer.

*Phalanges.* The fingers.

*Pharynx.* The back part of the mouth.

*Phrenitis.* Inflammation of the brain.

*Phthisis.* Consumption.

*Physiology.* The science which investigates the functions of the body.

*Pilules.* One form of preparation of homœopathic medicines.

*Plethora.* Redundant fulness of blood.

*Pleura.* The membrane which lines the chest and invests the lungs.

*Pleurodynia.* Pain in the side.

*Polypus.* A pear-shaped tumour, found in the uterus, nose, etc.

*Ponderable.* Capable of being weighed.

*Porrigō.* Ringworm.

*Posterior nares.* The back opening of the nostrils.

*Poiency.* Power.

*Pneumonia.* Inflammation of the lungs.

*Præcordial.* Relating to front region of the chest.

*Prehension.* The act of grasping.

*Predisposition.* Prior adaptation to any impression or change.

*Pregnancy.* Child-bearing.

*Prognosis.* The foretelling the progress and termination of a disease.

*Prolapsus ani.* Protrusion of the rectum.

*Prolific.* Productive.

*Prophylactic.* Preventive.

*Proving.* As applied in homœopathy, taking a medicine when in health for the purpose of proving or ascertaining what symptoms it produces.

*Proximate principles.* Distinct compounds, such as albumen, fibrin, etc., which exist in the blood ready made.

*Prurigo.* Itching of the skin.

*Puerperal.* Belonging to child-birth.

*Pulmonary.* Belonging to the lungs.

*Puriform.* Like pus.

*Purulent.* Consisting of pus.

*Pus.* Matter.

*Pustule.* An elevation of the epidermis containing matter.

*Pylorus.* The lower orifice of the stomach, towards the right side.

*Pyrosis.* Waterbrash.

*Quinsy.* Inflammatory sore throat.

*Rabies.* Madness; applied generally to hydrophobia in animals.

*Rachitis.* Rickets.

*Ranula.* A small tumour under the tongue.

*Reaction.* A vital phenomenon, arising from the application of some influence.

*Rectum.* The lowest portion of the large intestine.

*Remittent.* Applied to fevers, characterized by remissions, and by subsequent exacerbations.

*Repercussed.* Driving back.

*Respiration.* The process of breathing.

*Retina.* The expansion of the optic nerve, on which the rays of light impinge.

*Rhonchus.* A wheezing or rattling sound.

*Rigor.* Sudden coldness, attended with shivering.

*Resolution.* The dispersion of a tumour without the formation of matter.

*Rickets.* A disease of children; characterized by large head, bent back, swelled belly, and deficient development of the bones, whilst the mental faculties are often precocious.

*Rubeola.* Measles.

*Sacrum.* The wedge-shaped bone, composed of false vertebræ, which forms the lowest portion of the spinal column.

*Saliva.* The fluid secreted by the salivary glands, and poured into the mouth by ducts to become mixed with the food.

*Sanies.* A thin, red discharge from lesions.

*Sanguineous.* Bloody.

*Scabies.* The itch.

*Scalp.* The skin of the head.

*Scapula.* The shoulder-blade.

*Sciatica.* A rheumatic affection of the fibrous covering of the sciatic nerve.

*Science.* The collection of general principles in any branch of knowledge.

*Scirrhus.* A hard tumour in a gland.

*Sclerotica.* One of the coverings of the eyeball.

*Sebaceous.* Fat-like.

*Secretion.* The process of separating from the blood, by the agency of glands, certain materials which differ from that fluid in character and composition.

*Secretory vessels.* Those organs which secrete.

*Sedentary.* Applied to employments which require much sitting.

*Semi-lateral.* Confined to one side.

*Sequel.* That which follows.

*Serum.* The thin, transparent portion of the blood; and also the fluid secreted by serous membranes.

*Sinew.* Tendon.

*Sinus.* A channel in bone, or between tense membranes; or a long narrow abscess with a small outlet.

*Slough.* The dead part of tissue which separates from the lining structure.

*Solidification.* Condensation of a spongy or other structure.

*Somnolence.* Inclination to sleep.

*Spasm.* A sudden, violent, and temporary contraction of muscular fibre.

*Specific.* A medicine which exerts its action in an uniform manner, on one organ, and in one disease more than in others.

*Splenitis.* Inflammation of the spleen.

*Sporadic.* A term applied to those diseases which occur in single and isolated instances.

*Sputum.* The matter ejected from the lungs.

*Sternum.* The breast-bone.

*Stethoscope.* The cylindrical instrument for conducting sounds from the surface of any cavity to the ear of the listener.

*Strabismus.* Squinting.

*Strangury.* Painful dropping of urine.

*Stricture.* Diminution of the calibre of a tube.

*Stye.* An inflamed tumour on the edge of the eyelid.

*Submaxillary.* Under the jaw.

*Submaxillary glands.* The salivary glands under the lower jaw.

*Suppuration.* The process of producing matter.

*Suspended animation.* Apparent death.

*Symmetrical.* Proportioned as to dimensions.

*Synovia.* The fluid which lubricates joints.

*Synovial membrane.* The membrane which covers the joint ends of bones, and which secretes synovia.

*Symptom.* A certain apparent change in the structure or the function of the body, concurrent with, and indicative of, disease.

*Symptomatic.* That which arises from some already existing disorder.

*Symptomatology.* The doctrine of symptoms.

*Syncope.* Fainting.

*Synocha.* A simple continued inflammatory fever.

*Tubes mesenterica.* Wasting of the body in consequence of scrofulous disease of the mesenteric glands.

*Tartar.* The concretion on the teeth.

*Tendon.* The white, shining cord which attaches a muscle to bone.

*Tenesmus.* Straining.

*Tetanus.* A disease characterized by rigidity and spasm of the voluntary muscles.

*Thorax.* The cavity of the chest.



*Thrush.* Small, white, curd-like ulcers on the tongue, lips, etc.

*Tic douloureux.* Faceache.

*Tonsils.* The almond-shaped glands on each side of the throat.

*Tonsillitis.* Inflammation of the tonsils.

*Topical.* Limited to a part.

*Tourniquet.* An instrument used to restrain bleeding in the limb, after an injury or amputation.

*Trachea.* The windpipe.

*Tracheotomy.* The operation of opening the windpipe.

*Traumatic.* Pertaining to wounds.

*Tremor.* A shivering.

*Trismus.* Lock jaw.

*Trituration.* The subdivision of particles of matter by rubbing.

*Tumefaction.* A swelling.

*Tumefied.* Swollen.

*Turgidity.* The condition of being swelled.

*Tussis.* A cough.

*Typhoid.* Of a typhus character.

*Typhus.* A low, continued fever.

*Ulcer.* A breach of any of the soft parts

*Umbilical cord.* The navel-string.

*Umbilicus.* The navel.

*Unctuous.* Greasy.

*Union by the first intention.* The process of healing by adhesion, and without the formation of matter.

*Urethra.* The conduit for the discharge of urine.

*Uterus.* The womb.

*Vaccination.* Inoculation with the cow-pox, to protect from the contagion of small-pox.

*Varicella.* Chicken-pox.

*Varicose.* Dilatation of a vein.

*Variola.* Small-pox.

*Varix, pl. Varices.* Swelling of the veins.

*Vascular.* Full of vessels.

*Vertigo.* Giddiness.

*Vesicle.* An elevation of the cuticle, containing a watery fluid.

*Volition.* The act of exercising the will.

*Vomica.* An abscess in the lungs.

*Vicarious.* In the place of another.

*Virus.* The matter of a disease which can, on inoculation or absorption, produce the same affection in a healthy person.

*Vital.* Endowed with the principle of life.

*Vitreous.* Glass-like.

*Viscid.* Thick and tenacious.

*Viscus*, pl. *Viscera.* One of the contents of a cavity.

*Whitlow.* An inflamed swelling inside the nail or at the ends of the fingers.

A List  
OF  
HOMŒOPATHIC PRACTITIONERS  
IN GREAT BRITAIN.  
1858.

For the convenience of the public, the hours of consultation are given where they are known :—

LONDON.

- MR. ANDERSON, M.R.C.S. and L.A.C., 4, Bedford Terrace, Clapham Rise. At home from 1 to 3 p.m.
- MR. T. B. ANDERSON, I.P.P.A., 1815, 4, Burnham Villas, Richmond, Surrey.
- MR. AYERST, M.R.C.S., 20, Holles Street, Cavendish Square.
- DR. BARRY, 9, Artillery Place, Finsbury Square.
- DR. BELL, L.R.C.S. Ire., 15, Hertford Street, May Fair. At home from 12 to 2.
- DR. BROAKES, M.R.C.S., 2, Warwick Terrace, Belgrave Road.
- MR. CAMERON, M.R.C.S., 4, Bolton Street.
- DR. CHAPMAN, M.A. Cantab., 25, Albemarle Street, Piccadilly.
- DR. CHEPMELL, 22, Henrietta Street, Cavendish Square. At home from 11 to 12.30.

- DR. CLARKE, M.R.C.S. and L.A.C., 1, Canonbury Park, Islington. At home from 9 to 10 a.m., and from 6 to 7 p.m.
- DR. CROONIN, Claremont House, Brixton Road.
- DR. DAVISON, M.R.C.S., 1A, Brooksby Street, Barnsbury Park, Islington. At home from 9 to 11 a.m., and from 6 to 8 p.m.
- MR. DIXON, L.S.A., 25, Bedford Row. At home from 11 to 1.
- MR. DEURY, M.R.I.A., 3, Crescent, Camden Road, Regent's Park.
- DR. DUDGEON, L.R.C.S., 82, Gloucester Place, Portman Square.
- MR. ENGALL, M.R.C.S., 15, Euston Square. At home until 10 a.m., and from 2 to 3 and 6 to 7 p.m.
- DR. G. N. EPPS, M.R.C.S., 10, Grafton Street, Bond Street. At home Monday and Thursday until 2 p.m., other days from 12 to 2 p.m.
- DR. EPPS, 89, Great Russell Street, Bloomsbury.
- DR. GWILLIM, M.R.C.S. and L.A.C., 15, Northwick Terrace, St. John's Wood Road. At home from 11 to 1 p.m., and from 6 to 8 p.m.
- DR. HAMILTON, 22, Grafton Street, Bond Street.
- MR. D. HANDS, M.R.C.S. and L.A.C., 9, Dorset Square.
- DR. HANSON, 16, Orchard Street, Portman Square, and Cairo, Egypt, from November to April.
- DR. HENRIQUES, B.S.L. and M.R.C.S., 67, Upper Berkeley Street, Portman Square.
- DR. HEEING, L.A.C., 38, Mortimer Street, Cavendish Square. At home from 11 to 1 p.m.
- DR. HEWITT, M.R.C.S. and L.A.C., 1, Southwick Crescent, Oxford Square. At home from 10 to 2 p.m.
- DR. HINXMAN, M.R.C.S. and L.A.C., 5, Lee Terrace, Blackheath.
- MR. HUNTER, M.R.C.S. and L.A.C., 9, Addison Terrace, Notting Hill.
- DR. JONES, M.A. and M.R.C.S., 14, Harrington Square, St. Martin's-le-Grand.
- DR. KIDD, M.R.C.S., 60, Moorgate Street. At home from 10 to 2 p.m.

## 208 LIST OF HOMŒOPATHIC PRACTITIONERS.

- DR. LASSERON, Fore Street, Edmonton. At home until 1 p.m.
- DR. D. C. LAURIE, M.R.C.S., 6, Boyne Terrace, Notting Hill.
- DR. LAURIE, L.R.C.S., 12, Lower Berkeley Street, Portman Square.
- DR. LEADAM, M.R.C.S. and L.A.C., 12, Wyndham Place, Bryanstone Square.
- DR. MACKECHNIE, 212, Piccadilly. At home from 10 to 12 a.m., Saturday evening from 7 to 8.
- MR. MACKERN, M.R.C.S. Ire., 1, George Street, Hanover Square.
- DR. MASSOL, 4, Denmark Hill, Camberwell.
- MR. METCALF, M.R.C.S. and L.A.C., 9, Clapton Square, Hackney.
- DR. PARTRIDGE, M.R.C.S., 2, York Place, Portman Square. At home from 9 to 12 a.m.
- DR. QUIN, Mountfield House, 111, Mount Street, Grosvenor Square.
- DR. REED, M.R.C.S., Riga Cottage, Blackheath Road.
- MR. REYNOLDS, M.R.C.S. and L.A.C., 64, King William Street, City. At home daily at 10 a.m.
- DR. ROTH, 16A, Old Cavendish Street, Cavendish Square. Tuesday, Thursday, and Saturday, and at 11, Marlborough Place, Brighton, Monday, Wednesday, and Friday, from 2 to 4 p.m.
- MR. SIMMONS, M.R.C.S. and L.A.C., Isabel Cottage, Guy's Lane, Ealing, Middlesex. At home from 11 to 2 p.m.
- MR. SMITH, M.R.C.S. and L.A.C., 2, Harriet Street, Lowndes Square.
- DR. HAHNEMANN SUSS, 25, Finsbury Pavement.
- MR. THEOBALD, M.A. and M.R.C.S., 13, High Street, Camden Town. At home every morning before 12, and on Friday evening; and 21, Grove Terrace, Kentish Town, every evening except Friday.
- DR. TUNZELMANN, M.R.C.S., 2, Medina Cottages, Brixton Hill.
- MR. VARDY, L.A.C., 53, Stamford Street, Blackfriars Road. At home until noon, and from 7 to 9 p.m.

- DR. VIETTINGHOFF, 10, Chadwell Street, Middleton Square.  
At home from 9 to 12 a.m.
- DR. WILKIN, M.R.C.S., 64, King William Street, City. Residence—Lee, Kent.
- DR. WILKINSON, St. John's Wood Villas, Finchley Road, St. John's Wood.
- MR. WILSON, M.R.C.S., 22, Brook Street, Grosvenor Square.
- DR. WOOD, F.R.C.P. Ed., 10, Onslow Square, Brompton. At home from 11 to 12 a.m.
- MR. WOOLTORTON, M.R.C.S. and L.A.C., 7, Euston Place, New Road.
- DR. WYLDE, 6, Great Cumberland Street, W. At home from 11 to 1 a.m., and from 5 to 6 p.m.
- MR. YELDHAM, M.R.C.S. and L.A.C., 9, Stamford Street, and Kingston, Surrey. At Stamford Street, from 9 to 11 a.m., and 53, Moorgate Street, City, from 12 to 2 p.m.

#### ASHTON-UNDER-LYNE.

- MR. CLARE, M.R.C.S., 199, Stamford Street. At home 9 a.m., and 3 p.m.

#### BATH.

- DR. MORGAN, M.R.C.S. and L.A.C., 46, River's Street. At home until 11 a.m., and from 1 to 3 and 6 to 7 p.m.
- MR. NEWMAN, M.R.C.S. and L.S.A., 17, Queen's Square. At home from 9 to 11 a.m., and from 1 to 3 p.m.

#### BELFAST.

- MR. MACGREGOR, L.R.C.S. Ed., 13, College Square, North. At home from 9 to 12 a.m.
- DR. YOUNG, Richmond Terrace.

#### BEN RHYDDING.

- DR. MACLEOD, F.R.C.P. Ed.

**210 LIST OF HOMŒOPATHIC PRACTITIONERS.**

**BIRKENHEAD,**

**DR. WRIGHT**, 31, Hamilton Square. At home from 9 to 11 a.m., and from 6 to 8 p.m.

**BIRMINGHAM.**

**DR. FEARON**, M.R.C.S., 31, Great Charles Street, and 9, Calthorpe Street.

**MR. LAURENCE**, M.R.C.S. and L.S.A., Great Hampton Street.

**MR. PARSONS**, M.R.C.S., Hagley Road, Edgbaston.

**BISHOP WEARMOUTH.**

**MR. GRAY**, M.R.C.S., 18, Foyle Street. At home from 9 to 10 a.m., and from 7 to 9 p.m.

**BLACKPOOL.**

**MR. HARVEY**, M.R.C.S., Crystal Terrace, South Shore. At home from 8 to 10 a.m., and from 3 to 5 and 7 to 8 p.m.

**BLACKBURN.**

**MR. POPE**, M.R.C.S., 6, Strawberry Road.

**BOLTON.**

**DR. WALCOTT**, M.R.C.S., 14, Chorley New Road, and 30, Bridge Street. At home from 9 to 11 a.m., and from 5 to 9 p.m.

**BRADFORD, YORKSHIRE,**

**DR. BRADY**, M.R.C.S. and L.S.A.

**DR. BRERETON**, M.R.C.S. and L.A.C., Little Horton Lane.

**BRIGHTON.**

**DR. HILBERS**, M.R.C.S. and L.A.C., 112, King's Road.

**DR. MADDEN**, L.R.C.S.E., 10, Pavilion Parade. At home from 12 to 2 p.m.

**MR. MICHELE**, M.R.C.S. and L.S.A., 6, Old Steine. At home from 12 to 2 p.m.

**BRISTOL.**

**DR. BLACK**, L.R.C.S. Ed., 12, Lansdown Place, Clifton.

**MR. TROTMAN**, I.P.P., 1815, 16, Charlotte Street, Park Street.

**MR. WILKINS**, M.R.C.S. and F.S.A., 56, Park Street.

CAMBRIDGE.

DR. BAYES, M.R.C.S., 33, Sidney Street. At home from 2 to 4 p.m.

CANTERBURY.

DR. TUCKEY, A.B. and L.R.C.S. Ire., 1, St. Margaret Street.  
At home from 9.30 to 11.30 a.m.

CHELTENHAM.

DR. ACKWORTH, 26, Promenade. At home until 11 a.m., and  
from 1 to 3 p.m.

DR. DAVENPORT, M.R.C.S., 16, Montpellier Terrace.

DR. HASTINGS, M.R.C.S., and L.S.A., 8, Cambray. At home  
from 9 to 11 a.m., and from 1 to 2 p.m.

DR. KER, 7, Royal Parade.

DR. WILLIS, Swindon Manor House.

CHESTER.

MR. JOCE, M.R.C.S., and L.S.A., Pepper Street.

DR. NORTON, M.R.C.S., The Friars. (Retired from practice.)

DR. THOMAS, 5, Crane Street. At home from 9 to 10 a.m., and  
from 1 to 4 p.m.

COLCHESTER.

MR. WATSON, L.R.C.S. Ed., 12, Crouch Street.

COVENTRY.

MR. MILLIN, L.S.A., Jesson Street.

CROYDON.

DR. HILL, B.A., L.R.C.P. Eng., and M.R.C.S.

DONCASTER.

DR. DUNN, M.R.C.S. and L.A.C., The Priory.



DOVER.

DR. W. MORGAN, M.R.C.S., 1 Cambridge Terrace. At home until 11.30 a.m., and Tuesday and Saturday Evenings from 7 to 8.

DUBLIN.

DR. BLYTH, L.R.C.S. Ed., 16, Fitzwilliam Square, South. At home from 2 to 4 p.m.

DR. LUTHER, 30, Nassau Street, and Johnville Hydropathic Establishment, Tallaght, Co. Dublin.

DR. SCRIVEN, A.B. and M.R.C.S., 40, Stephen's Green. At home from 1 to 3 p.m.

DR. WALTER, M.R.C.S. and L.S.A. Ire., 20, Stephen's Green.

DUNDEE.

DR. COCKBURN, L.R.C.S. Ed., 126, Nethergate. At home from 8 to 11 a.m., and from 8 to 10 p.m.

DR. STEWART, 11, South Tay Street.

DUNSTABLE.

DR. W. FORBES LAWRIE, L.R.C.S. and L.S.A., Hydropathic Establishment, Dunstable, and 26, Mortimer Street, Cavendish Square, London. At home (Dunstable) 9 to 12 a.m., and 7 to 9 p.m.

EDINBURGH.

DR. ALLSHORN, M.R.C.S., 67, George Street. At home from 12 to 4 p.m.

DR. HENDERSON, L.R.C.S., 61, Northumberland Street.

DR. IRVINE, L.R.C.S. Ed., Melville House, 5, George Square. At home from 12 to 2 p.m.

DR. JAS. LAURIE, L.R.C.S. Ed., 22, Rankeillor Street.

DR. LYSCHINSHI, L.R.C.S. Ed., 10, Warriston Crescent.

DR. SUTHERLAND, L.R.C.S. Ed., 1, Carlton Street. (Not in practice.)

DR. WIELOBYCHI, M.R.C.S. Ed., 55, Queen Street.

EXETER.

MR. KINGDON, L.S.A., 30, Southernhay. At home before 10 a.m., and from 1 to 3 p.m.

GALWAY.

MR. M'SWINNEY, L.A.C. Ire., At home from 10 a.m. to 3 p.m., and from 4 to 9 p.m.

GLASGOW.

MR. COCKBURN, L.R.C.S. Ed., 123, Eglinton Street.

DR. THOMPSON, L.R.C.S. Ed., 300, Bath Crescent. At home from 1 to 3 p.m.

GUERNSEY.

DR. OZAME, 22, Samarez Street. At home from 8 to 10 a.m.

DR. MACLIMONT.

HALIFAX.

DR. WRIGHT, L.R.C.S. Ed. and L.A.S., The Square. At home at 8 a.m., and 3 p.m.

HASTINGS.

DR. HALE, M.R.C.S. and L.A.C. At home from 9 to 11 a.m.

HUDDERSFIELD.

DR. CAMERON, 18, New North Road.

DR. SINCLAIR.

HULL.

DR. ATKIN, 56, Prospect Street. At home from 12 to 2 p.m.

MR. FRASER, L.R.S.S. Ed., 56, Prospect Street.

DR. HORNER, L.R.C.S., Charlotte Street.

MR. WILSON, M.R.C.S. and L.A.C., 14, North Street, Charlotte Street. At home Tuesday and Friday, from 9 to 11 a.m., other days, 12 to 1 p.m.

**214 LIST OF HOMŒOPATHIC PRACTITIONERS.**

**ILKLEY WELLS.**

**DR. EDMUND SMITH, M.R.C.S. and L.A.C.**

**IPSWICH.**

**DR. GWYNN, M.S. Dub., St. Margaret's.** At home from 11 a.m. to 1.30 p.m.

**ISLE OF WIGHT.**

**DR. LOWDER, L.R.C.S. Ed., Lansdowne House, Ryde.** At home until 12 at noon.

**JERSEY.**

**DR. GINSTET, St. Helier's.**

**LEAMINGTON.**

**DR. RUSSELL, 13, Clarendon Square.** At home from 2 to 4 p.m.

**LEICESTER.**

**DR. KELSALL, F.R.C.S., 27, London Road.** At home from 10 a.m. to 2 p.m.

**LIVERPOOL.**

**DR. CRESSWELL, M.R.C.S., 2, Harford Street.**

**DR. DEYSDALE, L.R.C.S. Ed., 44, Rodney Street.** At home from 9 to 11 a.m., and from 2 to 3 p.m.

**DR. GELSTON, M.F.P. and S., 6, Chester Street.** At home from 1 to 5 and from 7 to 9 p.m.

**DR. HAYWARD, M.R.C.S. and L.S.A., 13, Pembroke Place.** At home until 1 and after 6 p.m.

**DR. HITCHMAN, M.R.C.S., Pembroke Place.**

**MR. MOORE, M.R.C.S. and L.A.C., 4, Napier Terrace, Canning Street.**

**DR. ROCHE, M.R.C.S. Dub., 63, Canning Street.**

**DR. STOKER, 13, Bedford Street, North.** At home from 9 to 12.30, and from 6 to 7 p.m.

LEEDS.

- DR. CRAIG, M.R.C.S. Ed., 4, Cookridge Street. At home from 1 to 3, and from 5 to 7, p.m.  
 DR. RAMSBOTHAM, M.R.C.S. and L.S.A., 16, Park Place. At home from 1 to 3 p.m. ,

MALVERN.

- DR. GULLY, L.R.C.S. Ed., L.A.C., Priory. At home from 9 to 11 a.m.  
 DR. WALTER JOHNSON, Great Malvern.  
 DR. MARSDEN, F.R.C.S., Great Malvern.

MANCHESTER.

- MR. BROWN, I.P.P., 1815, Broad Street, Pendleton.  
 MR. DRUMMOND, M.R.C.S., 123, Drummond Terrace, Lloyd Street, Greenheys. At home from 1 to 3 p.m., and on Monday, Tuesday, Thursday, and Friday, from 9 to 10 a.m.  
 DR. GALLOWAY, 93, Grosvenor Street, Oxford Street.  
 DR. HARRISON, M.R.C.S. and L.A.C., 145, Great Ducie Street, Strangeways. At home from 1 to 3 p.m.  
 DR. HUGHES, L.R.C.S., 29, Lever Street (House Surgeon to the Homœopathic Dispensary).  
 DR. MATTHEWS, 82, Oxford Street. At home from 12 to 2 p.m.  
 DR. M'DOWALL, 6, Chatham Street, Piccadilly. At home from 1 to 3 and from 7 to 9 p.m.  
 MR. MOORE, L.F.P.S., 92, Grosvenor Street, All Saints. At home from 1 to 3 p.m.  
 DR. PATRICK, L.C.P.S., 12, Chatham Street, Piccadilly. At home from 9 to 10 a.m., and 3 to 5 p.m.  
 DR. C. D. PHILLIPS, M.R.C.S. Ed., Oxford Road.  
 DR. PHILLIPS, M.R.C.S., Oxford Road.  
 DR. RAYNER, M.R.C.S. and L.A.C., 6, Gore Street, Piccadilly. At home from 1 to 3 p.m.  
 DR. WALKER, L.R.C.S. Ed., 89, Moseley Street. At home from 1 to 3 p.m.

216 LIST OF HOMŒOPATHIC PRACTITIONERS.

MAIDSTONE.

DR. WALTERS, M.A.C. Dub., High Street.

NANTWICH.

MR. KENT, F.R.C.S.

NEWCASTLE-ON-TYNE.

MR. ELLIOTT, M.R.C.S., 11, Pilgrim Street.

DR. HALE, L.R.C.S. Ed., 9, Jesmond Terrace.

NORTHAMPTON.

MR. CLIFTON, M.R.C.S.

DR. PEARCE, M.R.C.S.

NORWICH.

DR. HARTMANN, Surrey Street. At home Monday, Tuesday, and Friday from 2 to 4 p.m., on Wednesday 2 p.m., and Saturday from 11 to 4 p.m.

MR. HOLLAND, M.R.C.S. and L.A.C., St. Stephen's Villa. At home from 9 to 11 a.m.

NOTTINGHAM.

DR. BRADSHAW, M.R.C.S. and L.S.A., St. James's Street. At home from 12 to 2 p.m.

OXFORD.

MR. BATTY, M.R.C.S. and L.S.A., 45, St. Giles's.

PLYMOUTH.

DR. ELWIN, M.R.C.S. and L.S.A., 7, Radnor Place.

DR. FOX, M.R.C.S., 7, Mulgrave Place.

DR. MORGAN, A.M. Dub., F.C.P. Ire., 12, Lockyer Street.

PORTSMOUTH.

MR. DENHAM, M.R.C.S. and L.A.C., 10, Landport Terrace,  
Southsea.

PRESTON.

MR. THOMPSON, M.R.C.S. and L.A.C., 7, Winckley Street. At  
home from 2 to 3, and 7 to 9, p.m.

RAMSGATE.

DR. HENRY, M.R.C.S.

READING.

DR. GUINNESS, F.C.S. Ire.

ROCHDALE.

MR. COX, M.R.C.S., Yorkshire Street.

ROCHESTER.

DR. RIGG, The Vines. At home from 9 to 12, and from 6 to  
8, p.m.

ROSS.

DR. STRONG, M.R.C.S., The Chase.

ROTHERHAM.

DR. ARTHUR A. WALKER, Clifton Terrace.

RUGBY.

DR. SHARP, M.R.C.S. and L.A.C., F.R.S. and F.G.S., Horton  
House.

**218 LIST OF HOMŒOPATHIC PRACTITIONERS.**

**RUNCORN.**

**MR. HOWDEN, L.R.S.C. Ed.**

**SALISBURY.**

**MR. TOONE, M.R.C.S.**

**SCARBOROUGH.**

**DR. SMART, M.R.C.S. and L.A.C., 8, Huntress Row. At home from 8 to 11 a.m., and from 4 to 6 p.m.**

**SHEFFIELD.**

**DR. HOLLAND, B.L.**

**DR. RYAN, M.R.C.S. and LL.D., 6, Gell Street.**

**SOUTHAMPTON.**

**DR. WILMOTT, M.R.C.S. and L.A.C., 84, Marland Place.**

**SOUTHPORT.**

**DR. BLUMBERG, Egerton Place, Bold Street. At home from 2 to 4 p.m.**

**SOUTH SHIELDS.**

**DR. KENNEDY, M.F.P.S., 19, King Street. At home from 2 to 3, and from 6 to 8, p.m.**

**ST. ANDREWS.**

**DR. MACDONALD, F.R.S., F.L.S., F.G.S., F.R.C.P., M.W.S., M.R.P.S., M.R.M.S.**

**SUNDERLAND.**

**MR. TATE, M.R.C.S. and L.A.C., 20, John Street.**

SYDENHAM.

DR. MASSEY, M.R.C.S. Ire., Kirk Dale. At home from 9 to 11 a.m.

TAUNTON.

DR. BLAKE, M.R.C.S. At home from 11 to 12 a.m., Saturdays from 11 a.m. to 4 p.m.

THIRSK.

DR. JONAH HORNER, M.R.C.S.

TIVERTON.

DR. TURNER.

TORQUAY.

DR. BALBIRNIE, M.A.

MR. GILLOW, M.R.C.S., The Mount. At home from 10 to 11 a.m.

DR. MACKINTOSH, M.R.C.S. and L.S.A., 3, Higher Terrace. At home from 1 to 3 p.m.

TUNBRIDGE WELLS.

DR. BAILIE, L.R.C.S. Ed., Mount Calverley Lodge. At home from 11 a.m. to 2 p.m.

DR. WALKER, M.A., C.M., Sussex House.

WARRINGTON.

MR. BROOKES, M.R.C.S. and L.A.C., Stanley Street.

WESTON-SUPER-MARE.

DR. COCHRAN, M.R.C.S., 6, Victoria Place.

WINDSOR.

DR. HARPER, 21, Trinity Place.



WOLVERHAMPTON.

DR. KNOWLES, Snow Hill.

WORCESTER.

MR. LANE, M.R.C.S. and L.S.A., 85, Tything. At home from  
10 to 12. ' "

YARMOUTH.

DR. GARRETT, Regent Road.

YORK.

DR. RANSFORD, L.R.C.S., F.R.C.P., 9, Bootham. At home  
from 9 to 10 a.m., and from 2 to 3 p.m.

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